



April 15, 2020

Ms. Kaia Petersen
Department of Ecology
Hazardous Waste and Toxics Reduction
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Re: Burlington Environmental, LLC; a wholly-owned subsidiary of PSC Environmental Services, LLC, a wholly-owned subsidiary of Stericycle Environmental Solutions, Inc. Tacoma Facility, Dangerous Waste Permit No. WAD 020 257 945

Dear Ms. Petersen:

Enclosed, please find two copies of the Annual Progress Report for the period of January 1, 2019 through December 31, 2019 which includes the groundwater sampling conducted in 2019, and water level measurements conducted in June and December 2019, as required by Section E of the Stericycle Tacoma Facility dangerous waste permit No. WAD 020 257 945.

If you have questions or concerns related to this report, please contact me at (206) 375-0211 or at tgray@dofnw.com.

Respectfully,

A handwritten signature in black ink that reads "Tasya Gray". The signature is written in a cursive, flowing style.

Tasya Gray
Environmental Consultant for Stericycle Environmental Solutions
Dalton, Olmsted, and Fuglevand

Enclosures: 2019 Progress Report, Stericycle Facility, Tacoma, Washington

Cc: Greg Fink, Stericycle
Duane Beery, Stericycle
Katey Potter, Stericycle
Tacoma Main Public Library – Repository
Citizens for a Healthy Bay – Repository
Steve Teel, Ecology
Mr. Russell Post, Tacoma Public Utilities
Mr. Bill Sullivan, Puyallup Tribe of Indians
Mr. Desiree Pooley, Tacoma Public Works
Mr. Jerry Bartlett, Emerald Recycling
Mr. Doug Kunkle, EPI
Mr. Scott Hooten, Port of Tacoma

**ANNUAL
PROGRESS REPORT**

2019

**STERICYCLE
ENVIRONMENTAL
SOLUTIONS, INC.**

**TACOMA
FACILITY**

TACOMA, WASHINGTON

April 15, 2020



**STERICYCLE ENVIRONMENTAL
SOLUTIONS, INC.
Corrective Action Group
1701 East Alexander Avenue
Tacoma, WA 98421**

Prepared By:
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1 DESCRIPTION OF WORK COMPLETED

Stericycle Environmental Solutions, Inc. prepared this Annual Progress Report to document the corrective action activities conducted in 2019 and to present the results of the sampling activities conducted in the second quarter of 2019 for the Burlington Environmental LLC. (Burlington) Tacoma Facility located at 1701 Alexander Avenue in the City of Tacoma, Washington (the "Facility"). Burlington is a wholly owned subsidiary of PSC Environmental Services, LLC. (PSC), a wholly owned subsidiary of Stericycle Environmental Solutions, Inc., hereafter referred to in this report as Stericycle. This report was prepared in accordance with the requirements of Section E of the Facility's Dangerous Waste Permit (Permit No. WAD 020 257 945) (the "Permit"), reissued in March 2012 for the period of March 22, 2012 through March 22, 2022.

Stericycle submitted a revised Long Term Groundwater Monitoring Plan (GWMP) to Ecology during the fourth quarter 2011. The GWMP included a reduction of the sampling program to an annual sampling in June of each subsequent year. The draft groundwater monitoring plan was submitted to Ecology in October 2011 for review and was included as Section I-5 in the RCRA Part B Permit Application in December 2011, which is a part of the revised permit effective through March 22, 2022. The GWMP was revised with minor changes in May 2019 to update names and reflect abandonment of several groundwater monitoring wells. The revised plan was submitted to Ecology on May 31, 2019 and Ecology approved the revised plan via email on June 3, 2019 for inclusion in the permit.

The GWMP requires groundwater sampling during the 2nd Quarter of each year, but also requires that groundwater level measurements are also taken in the 4th Quarter (December). Well inspections are required every quarter.

This report, therefore, relates information on the 2nd Quarter 2019 Groundwater Monitoring event and the 4th Quarter 2019 groundwater level measurements.

1.1 Personnel Changes

The responsibilities of former Stericycle Corrective Actions Project Manager William Beck transitioned to Greg Fink midway through 2019.

1.2 Second and Fourth Quarter 2019 Liquid-Level Measurements and LNAPL Recovery

Stericycle conducted groundwater monitoring at the Tacoma facility during the second and fourth quarters on June 3, 2019 and again on December 2, 2019. Field activities included gauging the depth to groundwater, and where present, the depth to LNAPL. Sampling was conducted at the following monitoring points:

- Monitoring points that are part of the routine groundwater sampling program:

-
- Facility groundwater-monitoring wells: CTMW-1, CTMW-5, CTMW-7 through CTMW-10, CTMW-12, CTMW-14, CTMW-15, CTMW-17, CTMW-17D, CTMW-18, CTMW-20, CTMW-24, CTMW-24D, and CTMW-25D.
 - Potter Properties well MW-1.
 - Stericycle piezometers: PZ-1, PZ-5, PZ-7, PZ-8, and PZ-9.
 - Shallow-aquifer monitoring points associated with the Interim Measure:
 - LNAPL-interceptor trench piezometers: TP-6, TP-8 through TP-10.
 - Monitoring points added to the quarterly groundwater gauging program at the request of Ecology:
 - Three shallow-aquifer monitoring wells (SB-1A, SB-2A and SB-3A) on the Port of Tacoma property that abuts the Facility on the west.
 - Three monitoring well nests (CCW-2, CCW-3 and CCW-5) on the CleanCare property that abuts the Facility on the east.
 - In addition, Stericycle obtained groundwater elevation data from the adjacent property owner for the following wells:
 - Monitoring wells (EMW-1, EMW-2, EMW-3R and EMW-4) located on the Emerald Services, Inc. (Emerald) property located southeast of the Facility.

1.3 Second Quarter 2019 Groundwater Sampling

As part of the second quarter 2019 groundwater monitoring event, Stericycle collected groundwater samples from the groundwater monitoring wells in the Stericycle monitoring network on June 4th and 5th, 2019. Prior to sampling, Stericycle personnel purged each well. During purging, Stericycle personnel monitored the following groundwater stabilization criteria: purging flow rate; volume purged; water temperature; dissolved oxygen; turbidity; specific conductivity; redox potential; pH; pump speed; and total volume purged before and at stabilization. Attachment A provides a summary of these and other measurements taken in the field during sampling. When the field purging parameter measurements indicated that the groundwater quality in the well had stabilized, Stericycle collected groundwater samples into laboratory-provided sample containers, and placed the sample containers in a cooler with ice.

The groundwater samples from select wells were submitted to an independent laboratory [ALS Environmental (ALS)] for analysis. The sampling program includes analysis of: volatile organic compounds (VOCs); one semi-volatile organic compound (SVOC), 1,4-dioxane; gasoline-range organics (GRO) as total petroleum hydrocarbons (TPH); diesel-range organics (DRO) and lube oil-range organics (LRO); total metals from unfiltered samples and, when necessary, dissolved from filtered samples. Groundwater samples are not collected from wells CTMW-1, CTMW-10 and MW-1 because of the historic presence of light non-aqueous phase liquids (LNAPL).

1.4 Other Activities

In March 2019 three groundwater monitoring wells and piezometers were decommissioned in conjunction with the decommissioning of a Light Non-Aqueous Phase Liquid (LNAPL)

interceptor trench. Details of the work were summarized in a memorandum prepared by Dalton, Olmsted, and Fuglevand titled “Field Documentation: Decommissioning of Monitoring Wells and LNAPL Interceptor Trench, Stericycle Tacoma Facility”, submitted to Ecology on May 29, 2019.

Extensive construction-related activities were completed at the Tacoma facility in 2019 under permit approval from Ecology. Stormwater management improvements included swale improvements, rain garden improvements and paving of the 10-Day lot. A new modular office and laboratory building was installed in the center of the facility.

As part of the modular building installation air sampling in the crawlspace under the building took place in July 2019 and January 2020. A memorandum summarizing the July air sampling was previously submitted to Ecology on August 19, 2019. The attached memorandum “New Office Building Construction – Air Sampling, Stericycle Tacoma Facility” summarizes the second sampling event.

A Revised Data Gaps Work Plan for the Taylor Way and Alexander Avenue Fill Area Site (TWAFA) which encompasses the Tacoma facility was submitted to Ecology in January 2019. Ecology responded with additional comments in January 2020 and negotiations of a draft Agreed Order and revised work plan continue.

2 SUMMARY OF FINDINGS

2.1 Second Quarter 2019

2.1.1 Interim Measure

The results of the Interim Measure activities are summarized below:

Upon completion of the water level measurement activities, Stericycle personnel attempted to recover LNAPL from all wells with measurable LNAPL using a peristaltic pump and disposable tubing. The following documents the LNAPL recovery effort conducted during the second quarter field work on June 3, 2019:

- CTMW-1: LNAPL too viscous for water level measurement; purged ~80 ml of product
- CTMW-10: No LNAPL present; did not purge
- PZ-1: LNAPL too viscous for water level measurement; purged ~80 ml of product
- MW-1: Trace LNAPL

The following documents the LNAPL recovery effort conducted during the fourth quarter field work on December 2, 2019:

- CTMW-1: LNAPL too viscous for water level measurement; purged ~80 ml of product
- CTMW-10: No LNAPL present; did not purge
- PZ-1: LNAPL too viscous for water level measurement; purged ~60 ml of product
- MW-1: No LNAPL present; did not purge

The gauging data associated with the Interim Measure are presented in Table 1.

2.1.2 Hydrogeologic Results

On June 3 and December 2, 2019 Stericycle conducted groundwater monitoring activities that included gauging the depth to groundwater from selected wells. The depth to groundwater, LNAPL thickness, and the calculated groundwater elevations are summarized in Table 1.

The results of the second quarter 2019 gauging activities are summarized below:

Second Quarter 2019

Shallow Aquifer

- The calculated groundwater elevation contours for the shallow-aquifer monitoring points are illustrated on Figure 2. The groundwater contours indicate the presence of one

elongated mound in the groundwater elevation surface in the central portion of the Facility.

- LNAPL was detected in some of the wells and piezometers tested; see Section 2.1.1 for recovery volumes. Due to the high viscosity of the LNAPL it was not possible to measure LNAPL thickness. Only 160 ml of LNAPL was recovered from the wells. Monitoring points and the historic extent of LNAPL are documented in Table 1 and illustrated on Figure 3.

Deep Aquifer

- The deep aquifer beneath the Facility is influenced by tidal fluctuations in Commencement Bay. To obtain representative estimates of deep-aquifer groundwater elevations, hydraulic gradients, and groundwater flow rates; the deep-aquifer water-level measurements are completed within a period of less than four hours. The depth to groundwater and the calculated groundwater elevations at the deep-aquifer monitoring points for these measurements are summarized in Table 1.
- The deep-aquifer groundwater-elevation contours indicate that the direction of groundwater flow during the monitoring period is generally flat with flow to the south. The groundwater elevation contours for the deep-aquifer monitoring points are illustrated on Figure 4.

Fourth Quarter 2019

Shallow Aquifer

- The calculated groundwater elevation contours for the shallow-aquifer monitoring points are illustrated on Figure 5. The groundwater contours indicate the presence of one mound in the groundwater elevation surface in the central portion of the Facility.
- LNAPL was detected in some of the wells and piezometers tested; see Section 2.1.1 for recovery volumes. Due to the high viscosity of LNAPL it was not possible to measure LNAPL thickness. Only 140 ml of LNAPL was recovered from the wells. Monitoring points and the historic extent of LNAPL are documented in Table 1 and illustrated on Figure 6.

Deep Aquifer

- The deep aquifer beneath the Facility is influenced by tidal fluctuations in Commencement Bay. To obtain representative estimates of deep-aquifer groundwater elevations, hydraulic gradients, and groundwater flow rates; the deep-aquifer water-level measurements must be completed within a period less than four hours. The depth to groundwater and the calculated groundwater elevations at the deep-aquifer monitoring points for these measurements are summarized in Table 1.
- The deep-aquifer groundwater-elevation contours indicate that groundwater flow during the monitoring period is generally flat and flows to the southwest and west. The

groundwater elevation contours for the deep-aquifer monitoring points are illustrated on Figure 7.

2.1.3 Groundwater Sampling Results

Stericycle personnel conducted groundwater sampling activities at the Tacoma facility during the second quarter 2019 on June 4th and 5th, 2019. The groundwater samples collected from select wells were submitted to the project laboratory (ALS) for laboratory analysis. ALS analyzed the samples and prepared reports documenting the results. Copies of the analytical reports are provided in Attachment B.

The data validation report generated for the second quarter 2019 sampling event was submitted to Stericycle on July 31, 2019. The groundwater analytical results were reviewed and validated by Stericycle consultant, QA/QC Solutions, Inc. (QA/QC Solutions). QA/QC Solutions' review indicated the following:

- Overall, the data are of good quality; 223 results were qualified as estimated (J), 45 results reported as detected and were restated as undetected (U), 6 results reported as detected were restated as undetected and estimated (UJ); and no results were rejected (R).

Copies of the validation report are provided in Attachment C.

The laboratory analytical results and QA/QC Solutions' validation qualifiers are summarized in Tables 2 through 7. The lowest of the Washington State Model Toxics Control Act (MTCA) Method A and Method B groundwater cleanup levels (minimum CULs) were compared to the groundwater analytical results in the attached tables and are summarized below.

- Concentrations of VOCs in excess of their minimum CULs were not detected in the groundwater samples collected from the shallow and deep aquifer wells with one exception. In the shallow aquifer vinyl chloride was detected above the minimum CUL at CTMW-17.
- Concentrations of 1,4-dioxane were detected in excess of the minimum CUL in both shallow and deep aquifer wells, specifically wells CTMW-7, CTMW-9, CTMW-15, CTMW-24D and CTMW-25D. The laboratory analytical results and minimum CUL for 1,4-dioxane are presented in Table 3.
- GRO, DRO, and LRO were not detected in excess of their minimum CULs. However, the laboratory reporting limit (RL) for lube oil range organics was reported as slightly higher than the MTCA CUL of 500 ug/L – ranging from 500 to 520 ug/L. The laboratory analytical results for petroleum hydrocarbons is presented in Table 4.
- Concentrations of arsenic were detected in excess of its minimum CUL in all of the groundwater samples using EPA Method 6020 (see Table 5). In addition, lead was detected excess of its minimum CUL in shallow well CTMW-14 and CTMW-17. The laboratory analytical results for total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) are presented in Table 5.

- Stericycle no longer routinely analyzes groundwater samples for dissolved metals, unless turbidity stabilizes at a reading of 5 NTU or greater during purging. During the second quarter 2019, turbidity measurements stabilized at a levels less than 5 NTU in all the wells tested on site except for CTMW-14 and CTMW-15. Dissolved metal concentrations were below the minimum CUL at these wells and are presented in Table 6.

2.1.4 Sampling Problems Encountered

Six VOCs and one petroleum hydrocarbon had reporting limits above their applicable MTCA cleanup criteria but only three of these had method detection limits that also exceeded the MTCA criteria (see Table 7). The petroleum hydrocarbon was Lube Oil and the VOCs included: 1,2,3-trichloropropane, acrolein, acrylonitrile, cis-1,3-dichloropropene, methacrylonitrile, and trans-1,3-Dichloropropene.

2.1.5 Total Well Depths

Annually, total well depths are measured to determine if sediment has accumulated and redevelopment is recommended, in accordance with the Groundwater Monitoring Plan. Total depths were measured in November 2019. Most measurements were close to the reported constructed depths with a few notable exceptions. Wells CTMW-8, 9, 12, 14, and 15 were measured as over one foot shallower than the reported constructed depths. Stericycle will evaluate these wells for possible redevelopment in 2020.

3 PROJECTED WORK FOR THE NEXT REPORTING PERIOD

The next progress report Stericycle will submit to Ecology for the Tacoma Facility will be on April 15, 2021, per the Groundwater Monitoring Plan approved by Ecology. The report will include a summary of all annual activities, including the quarterly well assessments, the second quarter 2020 groundwater sampling, and the fourth quarter 2020 groundwater level measurements.

The projected corrective action activities for the next reporting period are summarized below:

- Stericycle personnel plan to conduct second quarter 2020 groundwater-monitoring event in May 2020. As part of the second quarter 2020 groundwater-sampling event, Stericycle personnel will measure water levels (and where appropriate, LNAPL thicknesses) at monitoring wells and piezometers in the network. Stericycle will submit the groundwater samples collected during the event to ALS for laboratory analysis. Laboratory data will be reviewed and validated by an independent expert chemist at QA/QC Solutions.

TABLES



Table 1
Groundwater Elevation Data and LNAPL Thickness
January through December 2019
Stericycle Tacoma Facility

PERIOD: From 06/03/2019 thru 12/02/2019 - Inclusive

Site ID	Date	Measuring Point Elevation (feet)	Time	Depth To Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface Elevation (feet)	Change in Groundwater Elevation (feet)	Freshwater Head Surface Elevation (feet)
CCW-2A	6/3/2019	12.22	08:53	4.48	0.00	7.74	NA	7.74
CCW-2A	12/2/2019	12.22	10:59	4.23	0.00	7.99	0.25	7.99
CCW-2B	6/3/2019	12.12	08:55	4.12	0.00	8.00	NA	8.00
CCW-2B	12/2/2019	12.12	10:57	4.17	0.00	7.95	-0.05	7.95
CCW-2C	6/3/2019	12.06	08:51	9.50	0.00	2.56	NA	2.56
CCW-2C	12/2/2019	12.06	11:01	9.71	0.00	2.35	-0.21	2.35
CCW-3A	6/3/2019	13.75	09:02	5.33	0.00	8.42	NA	8.42
CCW-3A	12/2/2019	13.75	10:53	5.34	0.00	8.41	-0.01	8.41
CCW-3B	6/3/2019	14.11	09:04	6.18	0.00	7.93	NA	7.93
CCW-3B	12/2/2019	14.11	10:55	5.96	0.00	8.15	0.22	8.15
CCW-3C	6/3/2019	15.68	09:00	13.04	0.00	2.64	NA	2.64
CCW-3C	12/2/2019	15.68	10:51	13.25	0.00	2.43	-0.21	2.43
CCW-5B	6/3/2019	12.62	00:00	NM	NA	NA	NA	NA
CCW-5B	12/2/2019	12.62	00:00	NM	NA	NA	NA	NA
CCW-5C	6/3/2019	12.40	00:00	NM	NA	NA	NA	NA
CCW-5C	12/2/2019	12.40	00:00	NM	NA	NA	NA	NA
CTMW-1	6/3/2019	13.43	10:09	NM	NA	NA	NA	NA
CTMW-1	12/2/2019	13.43	12:06	NM	NA	NA	NA	NA
CTMW-10	6/3/2019	12.80	10:00	4.86	0.00	7.94	NA	7.94
CTMW-10	12/2/2019	12.80	11:59	5.83	0.00	6.97	-0.97	6.97
CTMW-12	6/3/2019	18.29	08:13	15.74	0.00	2.55	NA	2.55
CTMW-12	12/2/2019	18.29	10:42	16.19	0.00	2.10	-0.45	2.10
CTMW-14	6/3/2019	13.13	08:34	8.23	0.00	4.90	NA	4.90
CTMW-14	12/2/2019	13.13	11:35	7.47	0.00	5.66	0.76	5.66
CTMW-15	6/3/2019	13.28	09:13	6.55	0.00	6.73	NA	6.73
CTMW-15	12/2/2019	13.28	11:46	6.37	0.00	6.91	0.18	6.91
CTMW-17	6/3/2019	19.32	08:18	10.30	0.00	9.02	NA	9.02
CTMW-17	12/2/2019	19.32	10:40	10.15	0.00	9.17	0.15	9.17

Elevations based on Datum NAD 83
NM = Not Measured, D = Dry Well



Table 1
Groundwater Elevation Data and LNAPL Thickness
January through December 2019
Stericycle Tacoma Facility

PERIOD: From 06/03/2019 thru 12/02/2019 - Inclusive

Site ID	Date	Measuring Point Elevation (feet)	Time	Depth To Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface Elevation (feet)	Change in Groundwater Elevation (feet)	Freshwater Head Surface Elevation (feet)
CTMW-17D	6/3/2019	16.64	08:16	14.05	0.00	2.59	NA	2.59
CTMW-17D	12/2/2019	16.64	10:38	14.33	0.00	2.31	-0.28	2.31
CTMW-18	6/3/2019	19.36	09:25	9.78	0.00	9.58	NA	9.58
CTMW-18	12/2/2019	19.36	11:54	9.89	0.00	9.47	-0.11	9.47
CTMW-20	6/3/2019	11.03	09:19	3.15	0.00	7.88	NA	7.88
CTMW-20	12/2/2019	11.03	00:00	NM	NA	NA	NA	NA
CTMW-24	6/3/2019	16.35	08:31	8.32	0.00	8.03	NA	8.03
CTMW-24	12/2/2019	16.35	11:34	7.95	0.00	8.40	0.37	8.40
CTMW-24D	6/3/2019	16.39	08:29	13.75	0.00	2.64	NA	2.64
CTMW-24D	12/2/2019	16.39	11:32	14.20	0.00	2.19	-0.45	2.19
CTMW-25D	6/3/2019	13.06	09:15	10.70	0.00	2.36	NA	2.36
CTMW-25D	12/2/2019	13.06	11:48	10.86	0.00	2.20	-0.16	2.20
CTMW-5	6/3/2019	14.10	09:22	5.90	0.00	8.20	NA	8.20
CTMW-5	12/2/2019	14.10	11:51	6.13	0.00	7.97	-0.23	7.97
CTMW-7	6/3/2019	14.75	08:41	12.30	0.00	2.45	NA	2.45
CTMW-7	12/2/2019	14.75	10:45	12.23	0.00	2.52	0.07	2.52
CTMW-8	6/3/2019	14.77	08:38	6.55	0.00	8.22	NA	8.22
CTMW-8	12/2/2019	14.77	10:34	6.57	0.00	8.20	-0.02	8.20
CTMW-9	6/3/2019	14.38	08:36	11.81	0.00	2.57	NA	2.57
CTMW-9	12/2/2019	14.38	10:32	12.28	0.00	2.10	-0.47	2.10
EMW-1	6/3/2019	10.84	09:30	3.02	0.00	7.82	NA	7.82
EMW-1	12/2/2019	10.84	09:07	3.44	0.00	7.40	-0.42	7.40
EMW-2	6/3/2019	10.44	09:50	3.10	0.00	7.34	NA	7.34
EMW-2	12/2/2019	10.44	09:20	3.35	0.00	7.09	-0.25	7.09
EMW-3R	6/3/2019	11.15	09:05	4.62	0.00	6.53	NA	6.53
EMW-3R	12/2/2019	11.15	09:32	5.40	0.00	5.75	-0.78	5.75
EMW-4	6/3/2019	10.60	09:20	3.29	0.00	7.31	NA	7.31

Elevations based on Datum NAD 83
NM = Not Measured, D = Dry Well



Table 1
 Groundwater Elevation Data and LNAPL Thickness
 January through December 2019
 Stericycle Tacoma Facility

PERIOD: From 06/03/2019 thru 12/02/2019 - Inclusive

Site ID	Date	Measuring Point Elevation (feet)	Time	Depth To Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface Elevation (feet)	Change in Groundwater Elevation (feet)	Freshwater Head Surface Elevation (feet)
EMW-4	12/2/2019	10.60	09:43	3.84	0.00	6.76	-0.55	6.76
MW-1	6/3/2019	10.84	09:10	3.00	0.00	7.84	NA	7.84
MW-1	12/2/2019	10.84	12:03	4.15	0.00	6.69	-1.15	6.69
PZ-1	6/3/2019	13.79	10:26	NM	NA	NA	NA	NA
PZ-1	12/2/2019	13.79	12:20	NM	NA	NA	NA	NA
PZ-5	6/3/2019	12.86	08:10	4.80	0.00	8.06	NA	8.06
PZ-5	12/2/2019	12.86	11:16	4.89	0.00	7.97	-0.09	7.97
PZ-7	6/3/2019	20.97	08:26	12.39	0.00	8.58	NA	8.58
PZ-7	12/2/2019	20.97	11:29	13.00	0.00	7.97	-0.61	7.97
PZ-8	6/3/2019	14.84	08:22	8.65	0.00	6.19	NA	6.19
PZ-8	12/2/2019	14.84	11:25	8.60	0.00	6.24	0.05	6.24
PZ-9	6/3/2019	15.55	08:20	7.62	0.00	7.93	NA	7.93
PZ-9	12/2/2019	15.55	11:22	7.24	0.00	8.31	0.38	8.31
SB-1A	6/3/2019	12.34	09:42	5.45	0.00	6.89	NA	6.89
SB-1A	12/2/2019	12.34	11:05	6.13	0.00	6.21	-0.68	6.21
SB-2A	6/3/2019	11.91	09:46	5.94	0.00	5.97	NA	5.97
SB-2A	12/2/2019	11.91	11:03	6.34	0.00	5.57	-0.40	5.57
SB-3A	6/3/2019	13.58	09:35	5.28	0.00	8.30	NA	8.30
SB-3A	12/2/2019	13.58	11:07	5.51	0.00	8.07	-0.23	8.07
TP-10	6/3/2019	10.62	00:00	NM	NA	NA	NA	NA
TP-10	12/2/2019	10.62	11:43	2.85	0.00	7.77	-2.85	7.77
TP-6	6/3/2019	10.69	00:00	NM	NA	NA	NA	NA
TP-6	12/2/2019	10.69	11:37	2.85	0.00	7.84	-2.85	7.84
TP-7	6/3/2019	9.89	00:00	NM	NA	NA	NA	NA
TP-7	12/2/2019	9.89	00:00	NM	NA	NA	NA	NA
TP-8	6/3/2019	10.32	00:00	NM	NA	NA	NA	NA
TP-8	12/2/2019	10.32	11:39	2.50	0.00	7.82	-2.50	7.82

Elevations based on Datum NAD 83
 NM = Not Measured, D = Dry Well



Table 1
 Groundwater Elevation Data and LNAPL Thickness
 January through December 2019
 Stericycle Tacoma Facility

PERIOD: From 06/03/2019 thru 12/02/2019 - Inclusive

Site ID	Date	Measuring Point Elevation (feet)	Time	Depth To Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface Elevation (feet)	Change in Groundwater Elevation (feet)	Freshwater Head Surface Elevation (feet)
TP-9	6/3/2019	10.21	00:00	NM	NA	NA	NA	NA
TP-9	12/2/2019	10.21	11:41	2.42	0.00	7.79	-2.42	7.79

Elevations based on Datum NAD 83
 NM = Not Measured, D = Dry Well



Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	1,1,1,2-Tetra chloroethane (ug/l)	Lab Quals	Expert Qual	1,1,1-Tri- chloroethane (ug/l)	Lab Quals	Expert Qual	1,1,2,2,-Tetra chloroethane (ug/l)	Lab Qual	Expert Qual	1,1,2-Tri- chloroethane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			1.6827			200			0.2188			0.7675		
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.50	U		<0.02	U	J	<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.50	U		<0.02	U	J	<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.50	U	J	<0.02	U		<0.50	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.50	U		<0.02	U		<0.50	U	

Methods 8260C, 8260C SIM

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	1,1-Dichloro-ethane (ug/l)	Lab Quals	Expert Qual	1,1-Dichloro-ethene (ug/l)	Lab Quals	Expert Qual	1,2,3-Trichloro propane (ug/l)	Lab Qual	Expert Qual	1,2-Dichloro-ethane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			7.68			400			0.00146			0.4808		
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.02	U		[<0.50]	U		0.0061	J	U
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		0.0087	J	J	[<0.50]	U		0.0068	J	U
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-18	06/05/2019 - 09:02	12.400	0.12	J	J	<0.02	U		[<0.50]	U		0.025		J
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<0.02	U		[<0.50]	U		0.016	J	J
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-5	06/05/2019 - 08:27	9.950	0.16	J	J	<0.02	U		[<0.50]	U		0.006	J	U
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.02	U		[<0.50]	U	J	0.0064	J	U
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.02	U		[<0.50]	U		<0.02	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	1,2-Dichloro-			2-Butanone			2-chloroethyl			2-Hexanone		
			propane (ug/l)	Lab Quals	Expert Qual	(ug/l)	Lab Quals	Expert Qual	vinylether (ug/l)	Lab Qual	Expert Qual	(ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			1.22			4800								
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-18	06/05/2019 - 09:02	12.400	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-5	06/05/2019 - 08:27	9.950	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<20	U		<5.0	U		<20	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	4.6	J	J	<5.0	U	J	<20	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<20	U		<5.0	U		<20	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	4-Methyl-2-pentanone (ug/l)	Lab Quals	Expert Qual	Acetone (ug/l)	Lab Quals	Expert Qual	Acetonitrile (ug/l)	Lab Qual	Expert Qual	Acrolein (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			640			7200						4		
CTMW-12	06/05/2019 - 13:54	26.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-14	06/04/2019 - 08:09	9.900	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-15	06/04/2019 - 09:37	9.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-17	06/05/2019 - 12:31	14.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-18	06/05/2019 - 09:02	12.400	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-20	06/04/2019 - 11:38	6.600	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-24	06/05/2019 - 15:23	11.100	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-5	06/05/2019 - 08:27	9.950	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-7	06/05/2019 - 09:43	25.000	<20	U		<20	U		<50	U	J	[<20]	U	
CTMW-8	06/05/2019 - 10:55	9.100	<20	U	J	49		J	<50	U	J	[<20]	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<20	U		<20	U		<50	U	J	[<20]	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Acrylonitrile (ug/l)	Lab Quals	Expert Qual	Allyl chloride (ug/l)	Lab Quals	Expert Qual	Benzene (ug/l)	Lab Qual	Expert Qual	Bromo-dichloro-methane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.081			800			0.7955			0.7056		
CTMW-12	06/05/2019 - 13:54	26.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-17	06/05/2019 - 12:31	14.000	<5.0]	U		<5.0	U		0.090	J	J	<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	<5.0]	U		<5.0	U		0.48	J	J	<0.50	U	
CTMW-20	06/04/2019 - 11:38	6.600	<5.0]	U		<5.0	U		0.070	J	J	<0.50	U	
CTMW-24	06/05/2019 - 15:23	11.100	<5.0]	U		0.15	J	J	<0.50	U		<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	<5.0]	U		<5.0	U		0.15	J	J	<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<5.0]	U	J	<5.0	U	J	0.14	J	J	<0.50	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<5.0]	U		<5.0	U		<0.50	U		<0.50	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Bromoform (ug/l)	Lab Quals	Expert Qual	Bromomethane (ug/l)	Lab Quals	Expert Qual	Carbon disulfide (ug/l)	Lab Qual	Expert Qual	Carbon tetrachloride (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			5.5380			11.2			800			0.625		
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-18	06/05/2019 - 09:02	12.400	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-5	06/05/2019 - 08:27	9.950	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.50	U		<0.50	U		<0.02	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.50	U	J	<0.50	U	J	<0.02	U	
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.50	U		0.080	J	J	<0.02	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Chlorobenzene (ug/l)	Lab Quals	Expert Qual	Chloroethane (ug/l)	Lab Quals	Expert Qual	Chloroform (ug/l)	Lab Qual	Expert Qual	Chloromethane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			160						1.41					
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.50	U		<0.50	U		0.080	J	J
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.50	U		0.54			<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-20	06/04/2019 - 11:38	6.600	0.24	J	J	0.57			<0.50	U		0.13	J	J
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	1.5			<0.50	U		<0.50	U		<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.50	U		<0.50	U		<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.50	U	J	<0.50	U	J	0.090	J	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.50	U		<0.50	U		0.070	J	J

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	cis-1,2-Dichloro ethylene (ug/l)	Lab Quals	Expert Qual	cis-1,3-Dichloropropene (ug/l)	Lab Quals	Expert Qual	Dibromochloro-methane (ug/l)	Lab Qual	Expert Qual	Dichloro-difluoro-methane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			16			0.438			0.5208			1600		
CTMW-12	06/05/2019 - 13:54	26.000	0.12	J	J	<0.50]	U		<0.50	U		<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-17	06/05/2019 - 12:31	14.000	0.26	J	J	<0.50]	U		<0.50	U		<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	0.13	J	J	<0.50]	U		<0.50	U		<0.50	U	
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	0.11	J	J	<0.50]	U		<0.50	U		<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.50]	U	J	<0.50	U	J	<0.50	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.50]	U		<0.50	U		<0.50	U	

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Ethyl methacrylate (ug/l)	Lab Quals	Expert Qual	Ethylbenzene (ug/l)	Lab Quals	Expert Qual	Isobutyl alcohol (ug/l)	Lab Qual	Expert Qual	m, p-Xylene (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			720			700			2400			1600		
CTMW-12	06/05/2019 - 13:54	26.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-17	06/05/2019 - 12:31	14.000	<5.0	U		0.080	J	J	<100	U	J	<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	<5.0	U		0.33	J	J	<100	U	J	0.20	J	J
CTMW-20	06/04/2019 - 11:38	6.600	<5.0	U		<0.50	U		<100	U	J	0.14	J	J
CTMW-24	06/05/2019 - 15:23	11.100	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<5.0	U	J	0.050	J	J	<100	U	J	<0.50	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<5.0	U		<0.50	U		<100	U	J	<0.50	U	

Methods 8260C, 8260C SIM

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Methacrylo			Methyl iodide			Methylene bromide			Methylene chloride		
			nitrile (ug/l)	Lab Quals	Expert Qual	(ug/l)	Lab Quals	Expert Qual	(ug/l)	Lab Qual	Expert Qual	(ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			1.6					80				5.0		
CTMW-12	06/05/2019 - 13:54	26.000	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-14	06/04/2019 - 08:09	9.900	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-15	06/04/2019 - 09:37	9.000	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-17	06/05/2019 - 12:31	14.000	<5.0]	U		1.3	J	U	<0.50	U		0.29	J	U
CTMW-17D	06/05/2019 - 13:12	28.000	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-18	06/05/2019 - 09:02	12.400	<5.0]	U		1.3	J	U	<0.50	U		2.4		
CTMW-20	06/04/2019 - 11:38	6.600	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-24	06/05/2019 - 15:23	11.100	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-5	06/05/2019 - 08:27	9.950	<5.0]	U		1.3	J	U	<0.50	U		<2.0	U	
CTMW-7	06/05/2019 - 09:43	25.000	<5.0]	U		<5.0	U		<0.50	U		<2.0	U	
CTMW-8	06/05/2019 - 10:55	9.100	<5.0]	U	J	1.3	J	UJ	<0.50	U	J	<2.0	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<5.0]	U		1.3	J	UJ	<0.50	U		<2.0	U	

Methods 8260C, 8260C SIM

() = Below reporting limit.

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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	o-Xylene (ug/l)	Lab Quals	Expert Qual	Tetrachloro-			Toluene (ug/l)	Lab Qual	Expert Qual	trans-1,2-		
						ethene (ug/l)	Lab Quals	Expert Qual				Dichloroethene (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			1600			5			640			160		
CTMW-12	06/05/2019 - 13:54	26.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-17	06/05/2019 - 12:31	14.000	<0.50	U		<0.50	U	J	0.16	J	J	<0.50	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-18	06/05/2019 - 09:02	12.400	0.21	J	J	<0.50	U	J	0.33	J	J	0.21	J	J
CTMW-20	06/04/2019 - 11:38	6.600	<0.50	U		<0.50	U	J	0.070	J	J	<0.50	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-5	06/05/2019 - 08:27	9.950	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50	U	J	<0.50	U	J	1.1		J	<0.50	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.50	U		<0.50	U	J	<0.50	U		<0.50	U	

Methods 8260C, 8260C SIM
 () = Below reporting limit.
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Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Trans-1,3-Dichloropropene			trans-1,4-Dichloro-2-butene			Trichloro-ethene			Trichloro fluoromethane		
			(ug/l)	Lab Quals	Expert Qual	(ug/l)	Lab Quals	Expert Qual	(ug/l)	Lab Qual	Expert Qual	(ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.4375					0.54				2400		
CTMW-12	06/05/2019 - 13:54	26.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-14	06/04/2019 - 08:09	9.900	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-15	06/04/2019 - 09:37	9.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-17	06/05/2019 - 12:31	14.000	<0.50]	U		<10	U	0.13	J	J	<0.50	U	J	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-18	06/05/2019 - 09:02	12.400	<0.50]	U		<10	U	0.11	J	J	<0.50	U	J	
CTMW-20	06/04/2019 - 11:38	6.600	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-24	06/05/2019 - 15:23	11.100	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-5	06/05/2019 - 08:27	9.950	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-7	06/05/2019 - 09:43	25.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	
CTMW-8	06/05/2019 - 10:55	9.100	<0.50]	U	J	<10	U	<0.50	U	J	<0.50	U	J	
CTMW-9	06/05/2019 - 11:36	24.000	<0.50]	U		<10	U	<0.50	U		<0.50	U	J	

Methods 8260C, 8260C SIM
 () = Below reporting limit.
 [] = Equal to or exceeds minimum clean up level.



Table 2
 Volatile Organic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Vinyl acetate (ug/l)	Lab Quals	Expert Qual	Vinyl chloride (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			8000			0.029		
CTMW-12	06/05/2019 - 13:54	26.000	<5.0	U		<0.02	U	
CTMW-14	06/04/2019 - 08:09	9.900	<5.0	U		<0.02	U	
CTMW-15	06/04/2019 - 09:37	9.000	<5.0	U		<0.02	U	
CTMW-17	06/05/2019 - 12:31	14.000	<5.0	U		[0.16]		
CTMW-17D	06/05/2019 - 13:12	28.000	<5.0	U		<0.02	U	
CTMW-18	06/05/2019 - 09:02	12.400	<5.0	U		0.02	J	J
CTMW-20	06/04/2019 - 11:38	6.600	<5.0	U		0.019	J	J
CTMW-24	06/05/2019 - 15:23	11.100	<5.0	U		<0.02	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<5.0	U		<0.02	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<5.0	U		<0.02	U	
CTMW-5	06/05/2019 - 08:27	9.950	<5.0	U		0.0089	J	J
CTMW-7	06/05/2019 - 09:43	25.000	<5.0	U		<0.02	U	
CTMW-8	06/05/2019 - 10:55	9.100	<5.0	U	J	0.006	J	J
CTMW-9	06/05/2019 - 11:36	24.000	<5.0	U		<0.02	U	

Methods 8260C, 8260C SIM

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 3
 1,4-Dioxane in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	1,4-Dioxane (ug/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.438		
CTMW-15	06/04/2019 - 09:37	9.000	[4.8]		
CTMW-18	06/05/2019 - 09:02	12.400	<0.40	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.40	U	
CTMW-24D	06/05/2019 - 14:37	24.000	[3.0]		
CTMW-25D	06/04/2019 - 10:33	19.700	[69]		
CTMW-5	06/05/2019 - 08:27	9.950	<0.40	U	
CTMW-7	06/05/2019 - 09:43	25.000	[23]		
CTMW-8	06/05/2019 - 10:55	9.100	<0.40	U	
CTMW-9	06/05/2019 - 11:36	24.000	[31]		
Methods 8270D SIM () = Below reporting limit. [] = Equal to or exceeds minimum clean up level.					



Table 4
 Total Petroleum Hydrocarbons in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Diesel (ug/l)	Lab Quals	Expert Qual	Gasoline (ug/l)	Lab Quals	Expert Qual	Lube Oil (ug/l)	Lab Qual	Expert Qual
MTCA A & B Minimum Level			500			800			500		
CTMW-12	06/05/2019 - 13:54	26.000	<260	U		NT			[<510]	U	
CTMW-14	06/05/2019 - 07:35	9.900	<260	U		NT			[<520]	U	
CTMW-15	06/04/2019 - 09:37	9.000	<260	U		NT			[<510]	U	
CTMW-17	06/05/2019 - 12:31	14.000	<260	U		NT			[<520]	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<260	U		NT			[<510]	U	
CTMW-18	06/05/2019 - 09:02	12.400	<260	U		<50.0	U		[<510]	U	
CTMW-20	06/04/2019 - 11:38	6.600	<260	U		<50.0	U		[<510]	U	
CTMW-24	06/05/2019 - 15:23	11.100	<260	U		NT			[<510]	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<260	U		NT			[<510]	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<250	U		NT			[<500]	U	
CTMW-5	06/05/2019 - 08:27	9.950	<260	U		NT			[<510]	U	
CTMW-7	06/05/2019 - 09:43	25.000	<250	U		NT			[<500]	U	
CTMW-8	06/05/2019 - 10:55	9.100	<250	U		NT			[<500]	U	
CTMW-9	06/05/2019 - 09:02	12.400	NT			<50.0	U		NT		
CTMW-9	06/05/2019 - 11:36	24.000	<260	U		NT			[<510]	U	

Methods NWTPH-Gx, Dx-SG

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 5
 Total Inorganic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Arsenic (mg/l)	Lab Quals	Expert Qual	Cadmium (mg/l)	Lab Quals	Expert Qual	Chromium (mg/l)	Lab Qual	Expert Qual	Copper (mg/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.000058			0.0050			0.050			0.59		
CTMW-12	06/05/2019 - 13:54	26.000	[0.00032]	J	J	<0.000020	U		0.00459			0.00045		
CTMW-14	06/04/2019 - 08:09	9.900	[0.00824]			0.000708			0.0213			0.0874		
CTMW-15	06/04/2019 - 09:37	9.000	[0.00159]			0.000119			0.00054		U	0.00061		
CTMW-17	06/05/2019 - 12:31	14.000	[0.0139]			0.00473			0.00235		U	0.0824		
CTMW-17D	06/05/2019 - 13:12	28.000	[0.00045]	J	J	0.000048			0.00350			0.00027		U
CTMW-18	06/05/2019 - 09:02	12.400	[0.00863]			0.00054		U	0.00047			0.00103		
CTMW-20	06/04/2019 - 11:38	6.600	[0.00203]			<0.000020	U		0.00054		U	0.00067		
CTMW-24	06/05/2019 - 15:23	11.100	[0.00158]			<0.000020	U		0.00054		U	0.00024		U
CTMW-24D	06/05/2019 - 14:37	24.000	[0.00075]			<0.000020	U		0.00562			0.00039		U
CTMW-25D	06/04/2019 - 10:33	19.700	[0.00225]			0.000011	J	J	0.0201			0.00308		
CTMW-5	06/05/2019 - 08:27	9.950	[0.0161]			0.000086			0.00284			0.00671		
CTMW-7	06/05/2019 - 09:43	25.000	[0.00039]	J	J	<0.000020	U		0.00383			0.00013		U
CTMW-8	06/05/2019 - 10:55	9.100	[0.0230]		J	0.000036		J	0.00054	J	UJ	0.00077		J
CTMW-9	06/05/2019 - 11:36	24.000	[0.00078]		J	<0.000020	U	J	0.00606		UJ	0.00031		UJ

Methods 6000/7000 Series
 () = Below reporting limit.
 [] = Equal to or exceeds minimum clean up level.



Table 5
 Total Inorganic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Lead (mg/l)	Lab Quals	Expert Qual	Mercury (ug/l)	Lab Quals	Expert Qual	Nickel (mg/l)	Lab Qual	Expert Qual	Zinc (mg/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.015			2			0.32			4.8		
CTMW-12	06/05/2019 - 13:54	26.000	0.000039		U	0.03	J	J	0.00078			0.0009	J	U
CTMW-14	06/04/2019 - 08:09	9.900	[0.0325]			NT			0.0146			0.0853		
CTMW-15	06/04/2019 - 09:37	9.000	0.000069			NT			0.00098			0.0015	J	U
CTMW-17	06/05/2019 - 12:31	14.000	[0.0355]			0.02	J	J	0.0206			0.550		
CTMW-17D	06/05/2019 - 13:12	28.000	0.000151			<0.20	U		0.00355			0.0229		
CTMW-18	06/05/2019 - 09:02	12.400	0.000288			<0.20	U		0.00772			0.0009	J	U
CTMW-20	06/04/2019 - 11:38	6.600	0.000014	J	J	NT			0.00093			<0.0020	U	
CTMW-24	06/05/2019 - 15:23	11.100	0.000084			<0.20	U		0.00252			0.0044		U
CTMW-24D	06/05/2019 - 14:37	24.000	0.000045		U	<0.20	U		0.00079			0.0009	J	U
CTMW-25D	06/04/2019 - 10:33	19.700	0.000277			NT			0.00529			0.0012	J	U
CTMW-5	06/05/2019 - 08:27	9.950	0.000986			<0.20	U		0.00497			0.0256		
CTMW-7	06/05/2019 - 09:43	25.000	0.000015	J	U	0.02	J	J	0.00260			0.0018	J	U
CTMW-8	06/05/2019 - 10:55	9.100	0.000438		J	<0.20	U	J	0.00176		J	0.0019	J	UU
CTMW-9	06/05/2019 - 11:36	24.000	0.000169		J	0.06	J	J	0.00557		J	0.0008	J	UU

Methods 6000/7000 Series

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 6
 Dissolved Inorganic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Dissolved Arsenic (mg/l)	Lab Quals	Expert Qual	Dissolved Cadmium (mg/l)	Lab Quals	Expert Qual	Dissolved Chromium (mg/l)	Lab Qual	Expert Qual	Dissolved Copper (mg/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.000058			0.0050			0.050			0.59		
CTMW-14	06/04/2019 - 08:09	9.900	[0.00272]			0.000148			0.00159		U	0.00551		
CTMW-15	06/04/2019 - 09:37	9.000	[0.00079]			0.000053			0.00054		U	0.00027		U

Methods 6000/7000 Series

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 6
 Dissolved Inorganic Compounds in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive
 SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	Dissolved			Dissolved			Dissolved			Dissolved		
			Lead (mg/l)	Lab Quals	Expert Qual	Mercury (ug/l)	Lab Quals	Expert Qual	Nickel (mg/l)	Lab Qual	Expert Qual	Zinc (mg/l)	Lab Quals	Expert Qual
MTCA A & B Minimum Level			0.015			2			0.32			4.8		
CTMW-14	06/04/2019 - 08:09	9.900	0.00142			<0.20	U		0.00186			0.0076		
CTMW-15	06/04/2019 - 09:37	9.000	0.000014	J	U	<0.20	U		0.00090			0.0024		

Methods 6000/7000 Series

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 7
 Selected Constituents Report to the MDL in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

Site	Date / Time	Sample Depth	1,2,3-Trichloro			Acrolein (ug/l)	Acrolein		Acrylonitrile (ug/l)	Acrylonitrile		cis-1,3-Dichloropropene		
			propane (ug/l)	Lab Quals	Expert Qual		Lab Quals	Expert Qual		Lab Quals	Expert Qual	Lab Quals	Expert Qual	
MTCA A & B Minimum Level			0.00146			4			0.081			0.438		
CTMW-12	06/05/2019 - 13:54	26.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-14	06/04/2019 - 08:09	9.900	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-14	06/05/2019 - 07:35	9.900	NT			NT			NT			NT		
CTMW-15	06/04/2019 - 09:37	9.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-17	06/05/2019 - 12:31	14.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-17D	06/05/2019 - 13:12	28.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-18	06/05/2019 - 09:02	12.400	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-20	06/04/2019 - 11:38	6.600	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-24	06/05/2019 - 15:23	11.100	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-24D	06/05/2019 - 14:37	24.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-25D	06/04/2019 - 10:33	19.700	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-5	06/05/2019 - 08:27	9.950	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-7	06/05/2019 - 09:43	25.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	
CTMW-8	06/05/2019 - 10:55	9.100	<0.20]	U	J	<1.2	U	J	<0.53]	U	J	<0.18	U	J
CTMW-9	06/05/2019 - 11:36	24.000	<0.20]	U		<1.2	U		<0.53]	U		<0.18	U	

Methods 8620C, 8260C SIM, NWTPH-Dx-SG

() = Below reporting limit.

[] = Equal to or exceeds minimum clean up level.



Table 7
 Selected Constituents Report to the MDL in Groundwater
 2019 Annual Report
 Stericycle Tacoma Facility

PERIOD: From 06/04/2019 thru 06/05/2019 - Inclusive

SAMPLE TYPE: Water

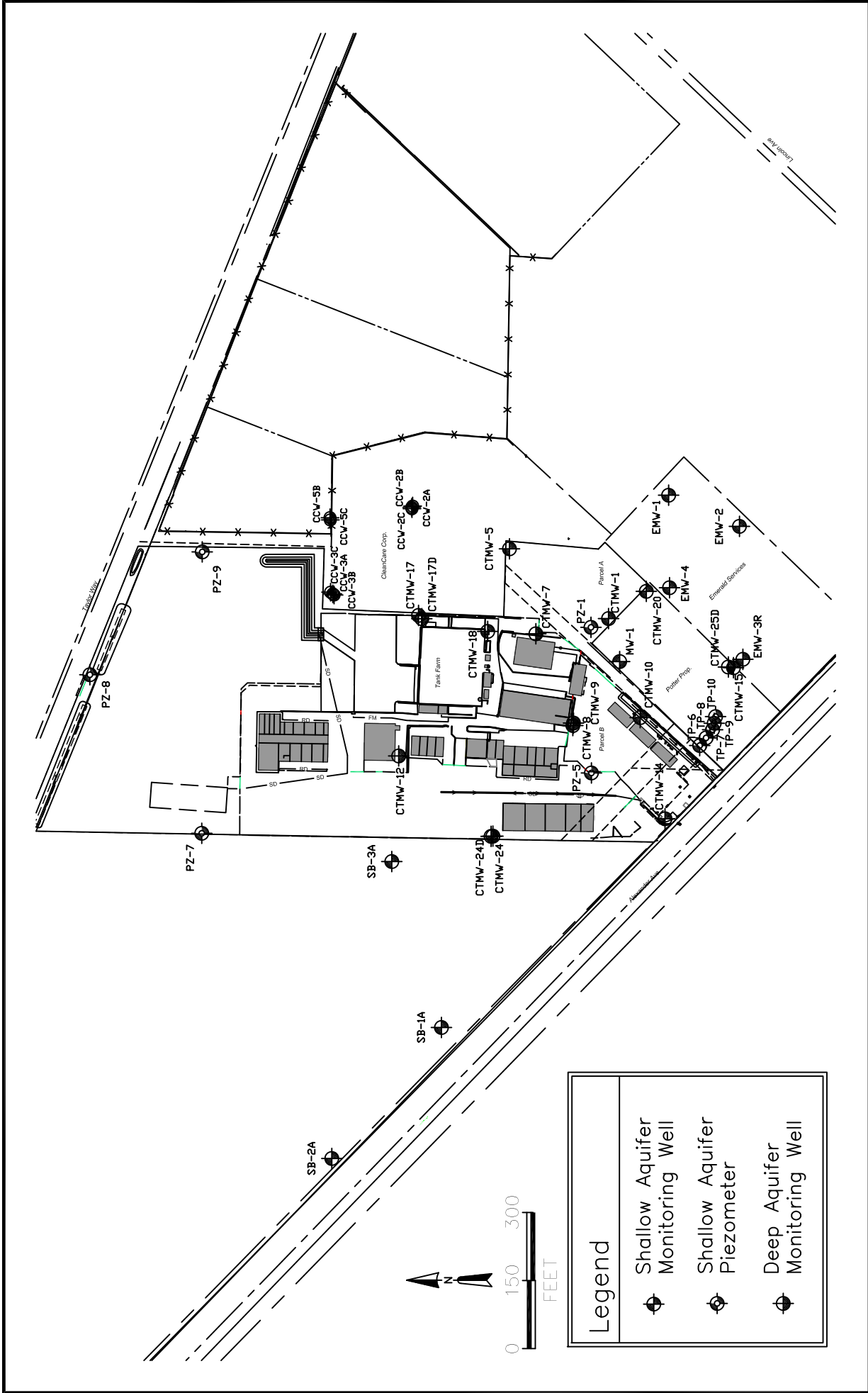
Site	Date / Time	Sample Depth	Methacrylo		Trans-1,3-		Lube Oil (ug/l)	Lab Qual		
			nitrile (ug/l)	Lab Quals	Expert Qual	Dichloropropene (ug/l)		Lab Quals	Expert Qual	
MTCA A & B Minimum Level			1.6		0.4375		500			
CTMW-12	06/05/2019 - 13:54	26.000	<0.35	U	<0.068	U	[<510]	U		
CTMW-14	06/04/2019 - 08:09	9.900	<0.35	U	<0.068	U	NT			
CTMW-14	06/05/2019 - 07:35	9.900	NT		NT		[<520]	U		
CTMW-15	06/04/2019 - 09:37	9.000	<0.35	U	<0.068	U	[<510]	U		
CTMW-17	06/05/2019 - 12:31	14.000	<0.35	U	<0.068	U	[<520]	U		
CTMW-17D	06/05/2019 - 13:12	28.000	<0.35	U	<0.068	U	[<510]	U		
CTMW-18	06/05/2019 - 09:02	12.400	<0.35	U	<0.068	U	[<510]	U		
CTMW-20	06/04/2019 - 11:38	6.600	<0.35	U	<0.068	U	[<510]	U		
CTMW-24	06/05/2019 - 15:23	11.100	<0.35	U	<0.068	U	[<510]	U		
CTMW-24D	06/05/2019 - 14:37	24.000	<0.35	U	<0.068	U	[<510]	U		
CTMW-25D	06/04/2019 - 10:33	19.700	<0.35	U	<0.068	U	[<500]	U		
CTMW-5	06/05/2019 - 08:27	9.950	<0.35	U	<0.068	U	[<510]	U		
CTMW-7	06/05/2019 - 09:43	25.000	<0.35	U	<0.068	U	[<500]	U		
CTMW-8	06/05/2019 - 10:55	9.100	<0.35	U	J	<0.068	U	J	[<500]	U
CTMW-9	06/05/2019 - 11:36	24.000	<0.35	U		<0.068	U		[<510]	U

Methods 8620C, 8260C SIM, NWTPH-Dx-SG

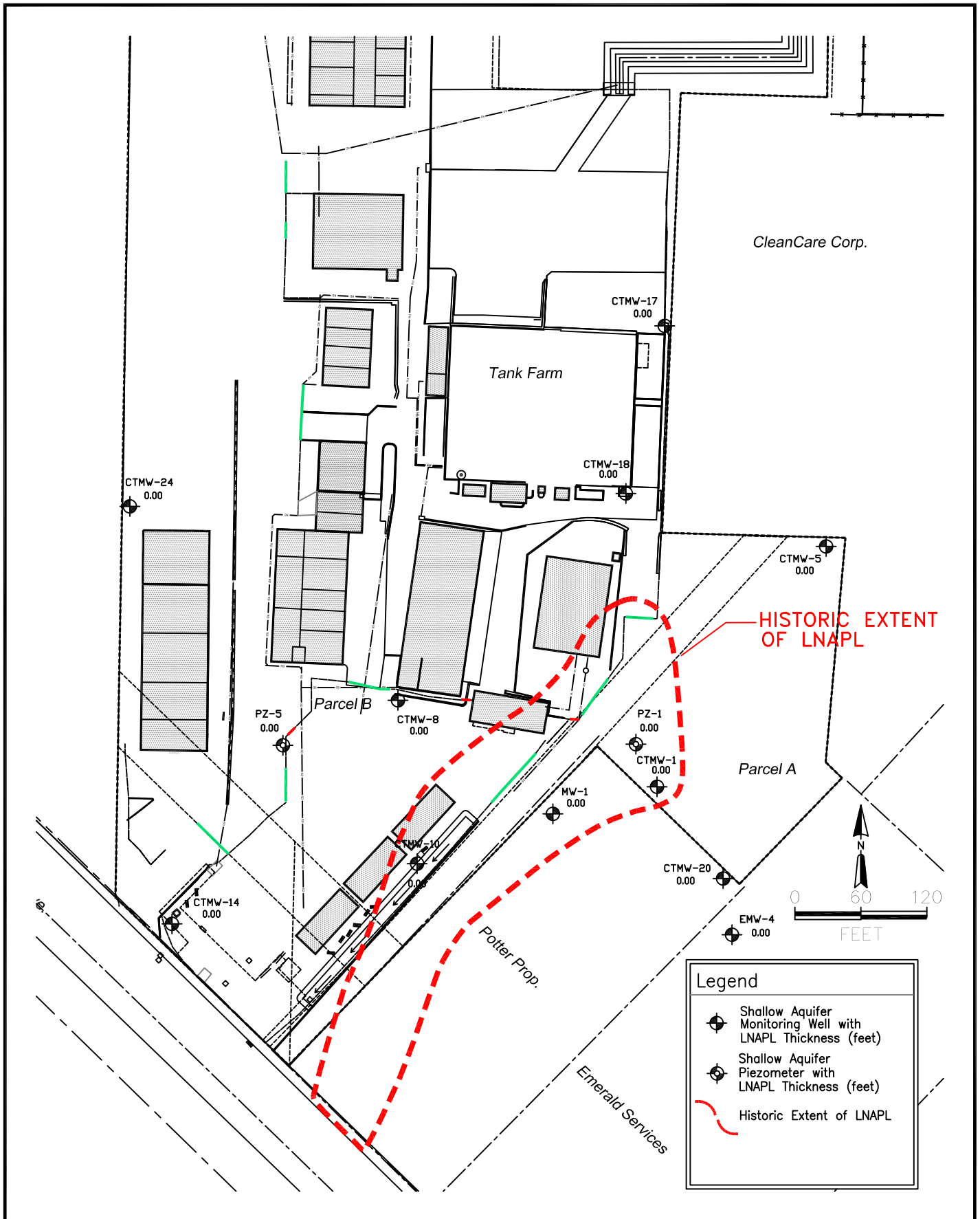
() = Below reporting limit.


[] = Equal to or exceeds minimum clean up level.

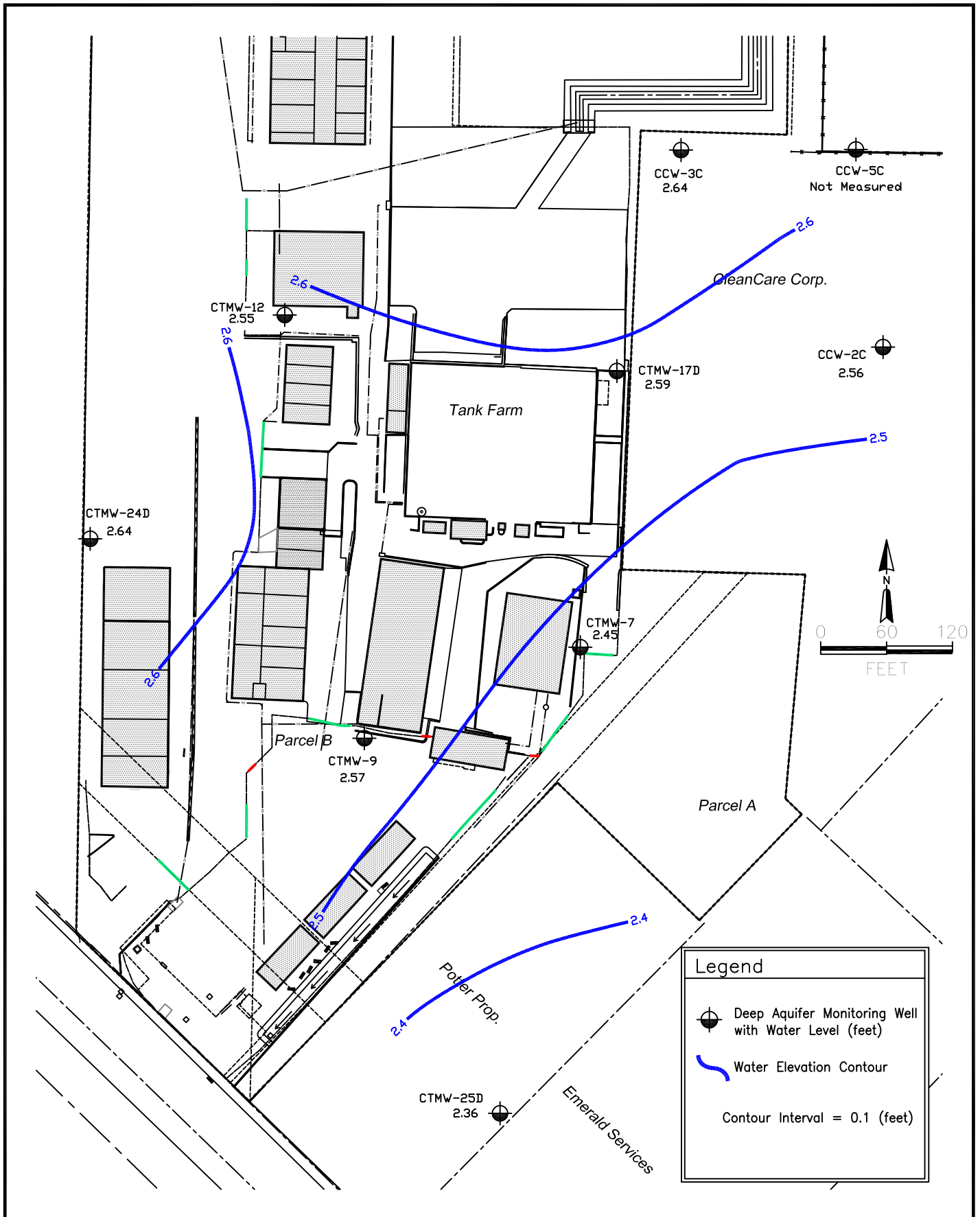
FIGURES




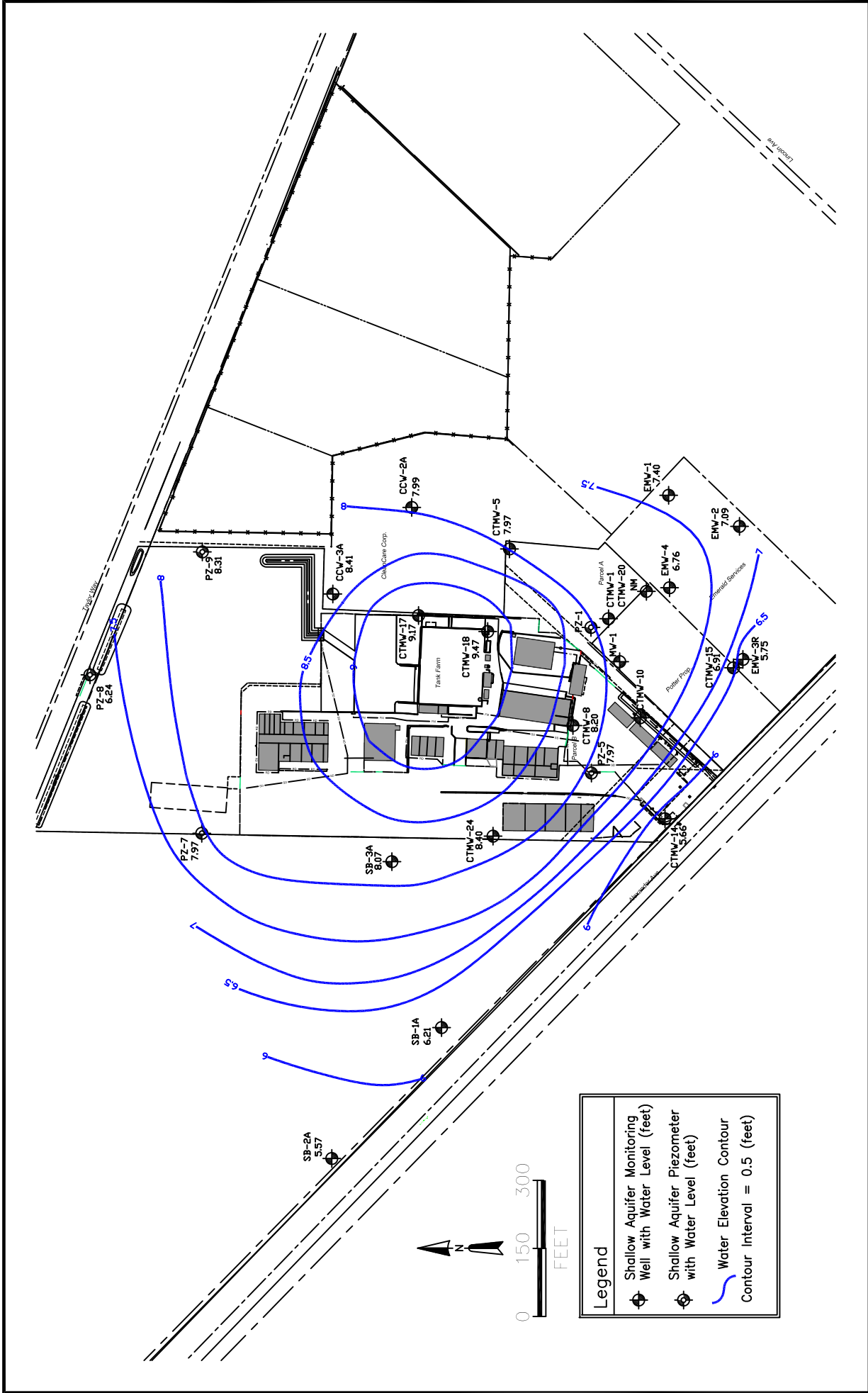
	TITLE: Site Map Stericycle Tacoma Facility			PROJECT NO.: Annual 2019
	DWN: dtb CHKD:	DES.: APPD:	DATE: 1/29/20	FIGURE NO.: 1




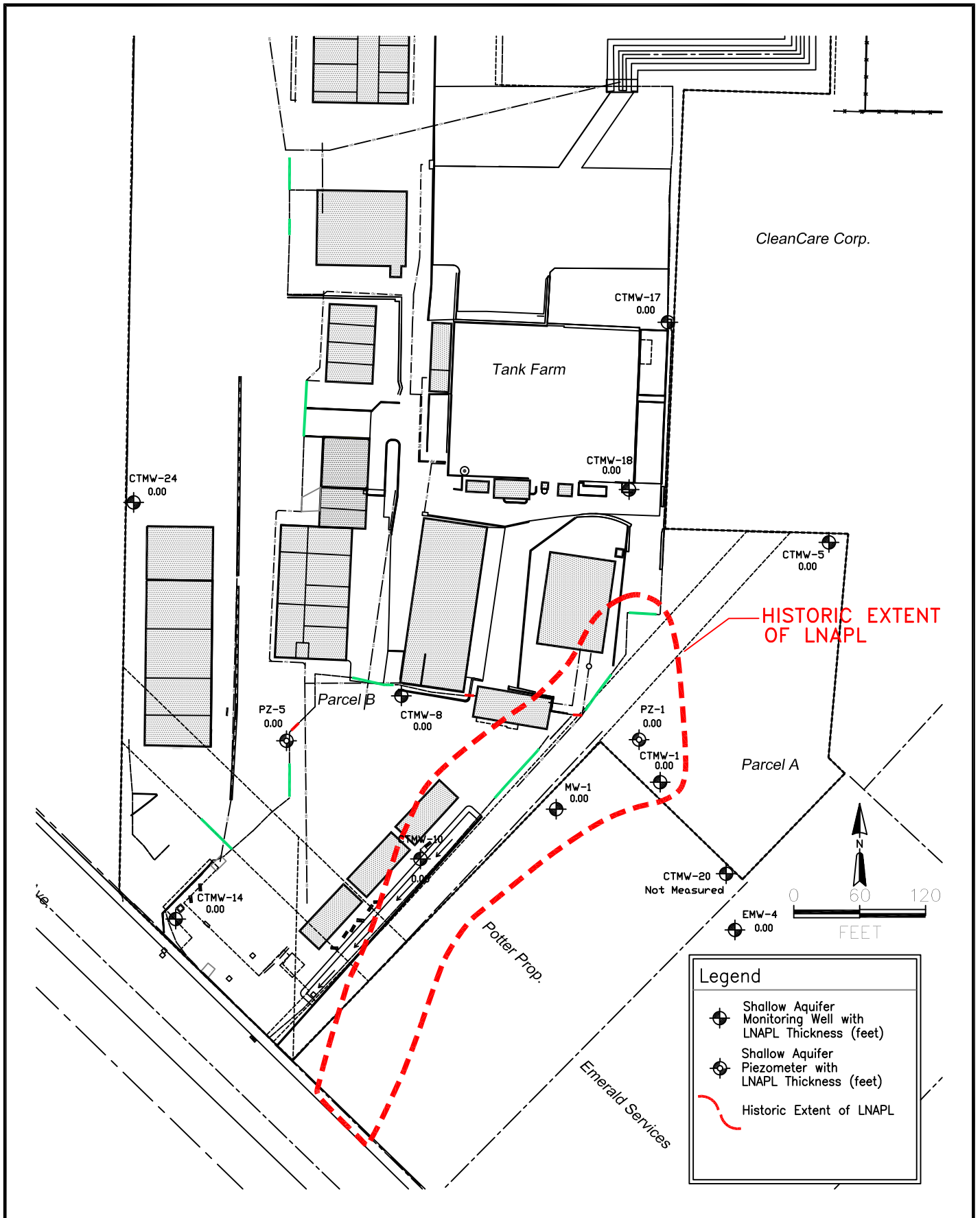
	TITLE:	DWN:	DES.:	PROJECT NO.:
	Calculated LNAPL Thickness	dtb		Annual 2019
	June 3, 2019	CHKD:	APPD:	FIGURE NO.:
	Stericycle Tacoma Facility	DATE:	REV.:	3
		1/29/20		



	TITLE:	DWN:	DES.:	PROJECT NO.:
	Groundwater Elevations	dtb		Annual 2019
	Deep Aquifer, June 3, 2019	CHKD:	APPD:	FIGURE NO.:
Stericycle Tacoma Facility	DATE:	REV.:	4	
	1/29/20			



	TITLE: Groundwater Elevations Shallow Aquifer, December 2, 2019 Stericycle Tacoma Facility			PROJECT NO.: Annual 2019
	DWN: dtb	DES.:	FIGURE NO.: 5	
CHKD:	APPD:	DATE: 1/29/20	REV.:	

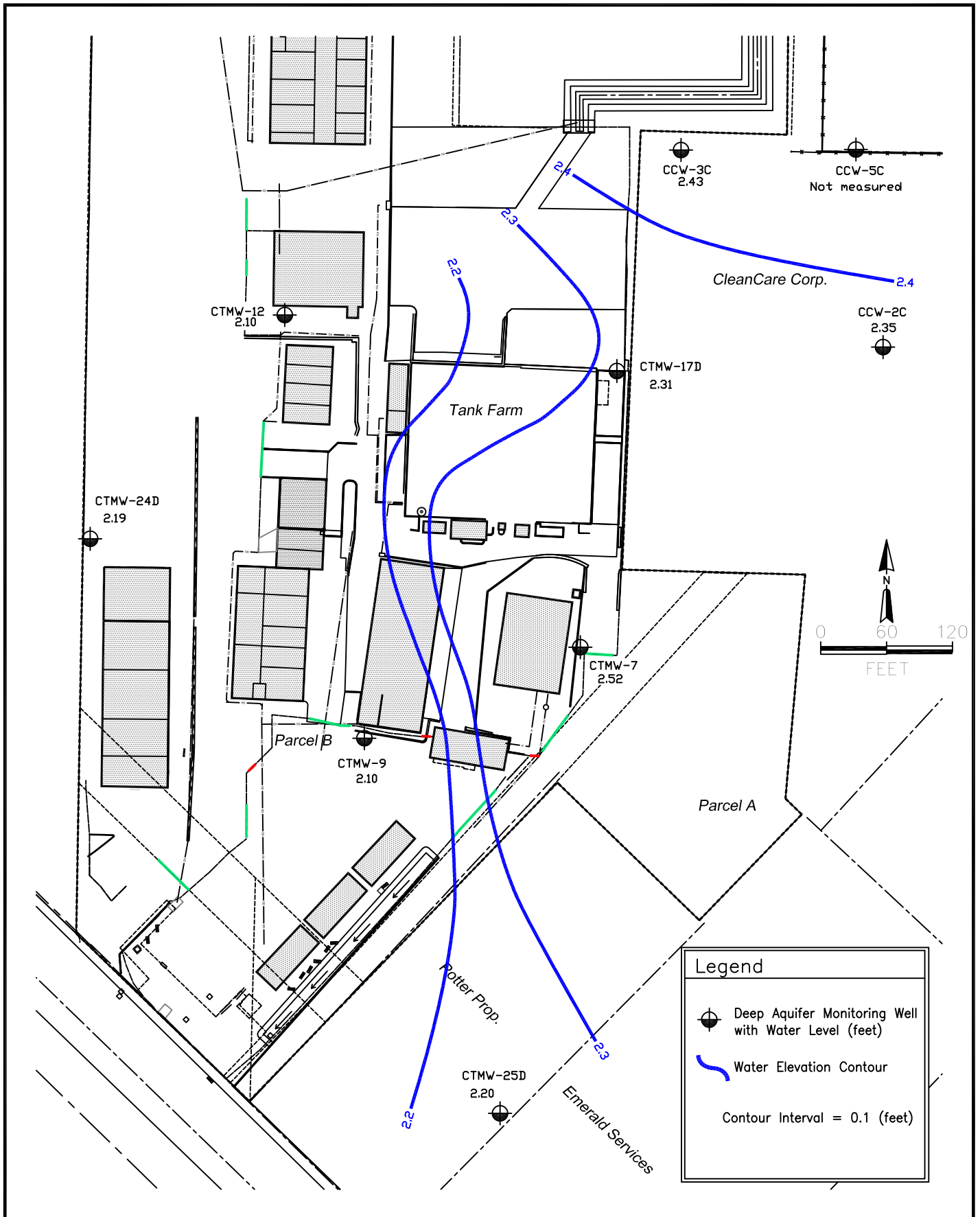


TITLE:
 Calculated LNAPL Thickness
 December 2, 2019
 Stericycle Tacoma Facility

DWN:
 dtb
 CHKD:
 DATE:
 1/29/20

DES.:
 APPD:
 REV.:

PROJECT NO.:
 Annual 2019
 FIGURE NO.:
 6



TITLE:
 Groundwater Elevations
 Deep Aquifer, December 2, 2019
 Stericycle Tacoma Facility

DWN:
 dtb
 CHKD:
 DATE:
 1/29/20

DES.:
 APPD:
 REV.:

PROJECT NO.:
 Annual 2019
 FIGURE NO.:
 7

ATTACHMENT A

Groundwater Quality Worksheet, Stericycle Tacoma Annual 2019

Time	Flow rate (ml/min)	Volume Purged (L)	Temp. (C)	Dissolved Oxygen		Turbidity		Specific Conductivity		Redox Potential		pH		Pump Speed (Hz or cpm)	Total Purge Time Before Stabilization (min)	Total Volume Purged at Stabilization (gallons)	Draw-down (0.01 ft)	Comments
				(ppm)	Relative Change (ppm) +/- 0.3ppm	(NTU)	Relative Change (%) +/- 10%	(mS/cm)	Relative Change (%) +/- 3%	(mV)	Relative Change (mV) +/- 10mV		Relative Change +/- 0.1					
Well CTMW-12 6\05\19 FC5000T	Volume purged before 1st reading	1.2													12	1.6	0.03	
13:42:22	400		15.55	1.79		1.66		1.599		14		6.7		3.0				All parameters stable when sample was collected.
13:45:05	400	1.2	15.50	1.81	0.02	1.11	-49.55	1.610	0.68	12	-2	6.62	-0.08	3.0				Turbidity < 5 NTU
13:48:07	400	1.2	15.48	1.56	-0.25	1.19	6.72	1.614	0.25	10	-2	6.56	-0.06	3.0				Do > 0.20 mg/L
13:51:13	400	1.2	15.48	1.56	0.00	0.74	-60.81	1.618	0.25	7	-3	6.59	0.03	3.0				
13:54:22	400	1.2	15.47	1.50	-0.06	0.48	-54.17	1.615	-0.19	5	-2	6.6	0.01	3.0				
Well CTMW-14 6\04\19 FC5000T	Volume purged before 1st reading	0.3													12	0.4	1.59	
7:57:06	100		13.88	6.16	#Error	29.0	#Error	0.337	#Error	95	#Error	6.42		0.2				All parameters stable when sample was collected.
8:00:05	100	0.3	13.96	6.36	0.20	27.9	-3.94	0.335	-0.57	93	-2	6.45	0.03	0.2				Turbidity > 5 NTU but stable.
8:03:13	100	0.3	14.05	6.99	0.63	28.3	1.41	0.333	-0.72	91	-2	6.46	0.01	0.2				Do > 0.20 mg/L
8:06:05	100	0.3	14.14	7.35	0.36	27.2	-4.04	0.333	-0.06	90	-1	6.47	0.01	0.2				
8:09:05	100	0.3	14.37	7.54	0.19	26.8	-1.49	0.332	-0.15	89	-1	6.52	0.05	0.2				
Well CTMW-15 6\04\19 FC5000T	Volume purged before 1st reading	0.3													24	0.7	1.35	
9:13:11	100		16.53	6.87		46.0		1.212		45		6.52		0.2				All parameters stable when sample was collected.
9:16:10	100	0.3	16.41	6.88	0.01	49.5	7.07	1.211	-0.08	15	-30	6.54	0.02	0.2				Turbidity > 5 NTU but stable.
9:19:05	100	0.3	16.38	6.82	-0.06	45.9	-7.84	1.195	-1.34	-6	-21	6.8	0.26	0.2				Do > 0.20 mg/L
9:22:05	100	0.3	16.39	7.05	0.23	45.4	-1.1	1.168	-2.31	-21	-15	6.84	0.04	0.2				
9:25:05	100	0.3	16.51	7.38	0.33	46.3	1.94	1.131	-3.27	-29	-8	6.63	-0.21	0.2				
9:28:05	100	0.3	16.76	7.50	0.12	39.0	-18.72	1.073	-5.41	-32	-3	6.57	-0.06	0.2				
9:31:06	100	0.3	17.03	7.76	0.26	38.3	-1.83	0.999	-7.41	-33	-1	6.73	0.16	0.2				
9:34:43	100	0.3	17.32	7.96	0.20	37.2	-2.96	0.983	-1.6	-33	0	6.75	0.02	0.2				
9:37:10	100	0.3	17.47	8.10	0.14	35.9	-3.62	0.971	-1.27	-32	1	6.8	0.05	0.2				
Well CTMW-17 6\05\19 FC5000T	Volume purged before 1st reading	0.6													27	1.6	3.09	
12:04:06	200		14.71	2.76		3.26		0.414		-13		6.7		1.0				All parameters stable when sample was collected.
12:07:09	200	0.6	14.62	2.91	0.15	3.09	-5.5	0.389	-6.46	1	14	6.54	-0.16	1.0				Turbidity < 5 NTU
12:10:05	200	0.6	14.55	2.92	0.01	3.44	10.17	0.391	0.51	6	5	6.26	-0.28	1.0				Do > 0.20 mg/L
12:13:05	200	0.6	14.52	2.99	0.07	2.41	-42.74	0.353	-10.81	9	3	6.51	0.25	1.0				
12:16:12	200	0.6	14.47	2.97	-0.02	1.95	-23.59	0.326	-8.16	10	1	6.38	-0.13	1.0				
12:19:06	200	0.6	14.43	2.94	-0.03	1.71	-14.04	0.311	-4.96	11	1	6.05	-0.33	1.0				
12:21:26	200	0.4	14.39	2.72	-0.22	0.99	-72.73	0.301	-3.29	12	1	6.62	0.57	1.0				
12:25:05	200	0.8	14.37	2.66	-0.06	1.17	15.38	0.287	-4.81	12	0	6.31	-0.31	1.0				
12:28:04	200	0.6	14.40	2.80	0.14	1.51	22.52	0.283	-1.52	12	0	6.28	-0.03	1.0				
12:31:06	200	0.6	14.40	2.83	0.03	1.59	5.03	0.281	-0.57	12	0	6.31	0.03	1.0				

Groundwater Quality Worksheet, Stericycle Tacoma Annual 2019

Time	Flow rate (ml/min)	Volume Purged (L)	Temp. (C)	Dissolved Oxygen (ppm)		Turbidity (NTU)		Specific Conductivity (mS/cm)		Redox Potential (mV)		pH		Pump Speed (Hz or cpm)	Total Purge Time Before Stabilization (min)	Total Volume Purged at Stabilization (gallons)	Draw-down (0.01 ft)	Comments
				Relative Change (ppm) +/- 0.3ppm	Relative Change (%)	Relative Change (%)	Relative Change (%) +/- 3%	Relative Change (mV) +/- 10mV	Relative Change +/- 0.1									
Well CTMW-17D 6\05\19 FC5000T	Volume purged before 1st reading	1.2													18	2.2	0.02	
12:54:05	400		14.64	2.17		2.66		0.478		67		6.61		3.0	All parameters stable when sample was collected.			
12:57:11	400	1.2	14.40	1.71	-0.46	1.56	-70.51	0.518	7.83	54	-13	6.55	-0.06	3.0	Turbidity < 5 NTU			
13:00:05	400	1.2	14.30	1.75	0.04	3.16	50.63	0.542	4.34	45	-9	6.71	0.16	3.0	Do > 0.20 mg/L			
13:03:05	400	1.2	14.30	1.64	-0.11	1.02	-209.8	0.563	3.78	37	-8	6.52	-0.19	3.0				
13:06:05	400	1.2	14.29	1.47	-0.17	0.60	-70	0.586	3.89	30	-7	6.53	0.01	3.0				
13:09:06	400	1.2	14.27	1.50	0.03	0.45	-33.33	0.595	1.43	24	-6	6.47	-0.06	3.0				
13:12:05	400	1.2	14.25	1.47	-0.03	0.98	54.08	0.603	1.41	20	-4	6.55	0.08	3.0				
Well CTMW-18 6\05\19 FC5000T	Volume purged before 1st reading	0.6													12	0.8	0.85	
8:50:14	200		14.07	2.77		2.49		0.463		155		6.37		1.0	All parameters stable when sample was collected.			
8:53:05	200	0.6	14.20	2.20	-0.57	2.31	-7.79	0.507	8.81	133	-22	6.18	-0.19	1.0	Turbidity < 5 NTU			
8:56:06	200	0.6	14.28	1.89	-0.31	1.14	-102.63	0.521	2.69	120	-13	6.43	0.25	1.0	Do > 0.20 mg/L			
8:59:05	200	0.6	14.30	1.83	-0.06	1.08	-5.56	0.528	1.23	111	-9	6.41	-0.02	1.0				
9:02:05	200	0.6	14.28	1.85	0.02	0.73	-47.95	0.530	0.43	105	-6	6.37	-0.04	1.0				
Well CTMW-20 6\04\19 FC5000T	Volume purged before 1st reading	1.2													33	3.8	0.05	
11:05:10	400		13.42	1.79		1.10		0.757		5		6.73		3.0	All parameters stable when sample was collected.			
11:08:06	400	1.2	13.05	0.82	-0.97	0.81	-35.8	0.698	-8.5	-1	-6	6.7	-0.03	3.0	Turbidity < 5 NTU			
11:11:05	400	1.2	13.16	0.78	-0.04	2.92	72.26	0.604	-15.57	-14	-13	6.73	0.03	3.0	Do > 0.20 mg/L			
11:14:05	400	1.2	13.24	0.81	0.03	2.46	-18.7	0.546	-10.63	-21	-7	6.86	0.13	3.0				
11:17:05	400	1.2	13.26	0.80	-0.01	1.74	-41.38	0.526	-3.71	-25	-4	6.68	-0.18	3.0				
11:20:05	400	1.2	13.32	0.78	-0.02	1.49	-16.78	0.516	-1.94	-29	-4	6.75	0.07	3.0				
11:23:05	400	1.2	13.36	0.70	-0.08	1.18	-26.27	0.508	-1.51	-34	-5	6.71	-0.04	3.0				
11:26:06	400	1.2	13.38	0.65	-0.05	1.00	-18	0.498	-2.05	-38	-4	6.64	-0.07	3.0				
11:29:05	400	1.2	13.36	0.61	-0.04	0.99	-1.01	0.486	-2.43	-41	-3	6.72	0.08	3.0				
11:32:05	400	1.2	13.44	0.58	-0.03	1.02	2.94	0.470	-3.49	-44	-3	6.7	-0.02	3.0				
11:35:05	400	1.2	13.41	0.57	-0.01	1.48	31.08	0.461	-1.97	-47	-3	6.62	-0.08	3.0				
11:38:05	400	1.2	13.44	0.63	0.06	1.07	-38.32	0.457	-0.81	-50	-3	6.65	0.03	3.0				
Well CTMW-24 6\05\19 FC5000T	Volume purged before 1st reading	0.6													27	1.6	0.38	
14:56:14	200		14.93	2.85		0.88		0.432		-23		6.38		1.0	All parameters stable when sample was collected.			
14:59:06	200	0.6	14.88	2.85	0.00	0.83	-6.02	0.341	-26.81	-18	5	6.49	0.11	1.0	Turbidity < 5 NTU			
15:02:05	200	0.6	14.89	2.78	-0.07	0.77	-7.79	0.297	-14.86	-14	4	6.19	-0.30	1.0	Do > 0.20 mg/L			
15:05:05	200	0.6	14.92	2.82	0.04	0.68	-13.24	0.273	-8.84	-12	2	6.3	0.11	1.0				

Groundwater Quality Worksheet, Stericycle Tacoma Annual 2019

Time	Flow rate (ml/min)	Volume Purged (L)	Temp. (C)	Dissolved Oxygen		Turbidity		Specific Conductivity		Redox Potential		pH		Pump Speed (Hz or cpm)	Total Purge Time Before Stabilization (min)	Total Volume Purged at Stabilization (gallons)	Draw-down (0.01 ft)	Comments
				(ppm)	Relative Change (ppm) +/- 0.3ppm	(NTU)	Relative Change (%) +/- 10%	(mS/cm)	Relative Change (%) +/- 3%	(mV)	Relative Change (mV) +/- 10mV	Relative Change +/- 0.1						
15:08:20	200	0.6	14.95	2.92	0.10	0.38	-78.95	0.256	-6.48	-11	1	6.16	-0.14	1.0				
15:11:32	200	0.6	14.94	2.86	-0.06	0.52	26.92	0.245	-4.74	-10	1	6.26	0.10	1.0				
15:14:29	200	0.6	14.89	2.81	-0.05	0.35	-48.57	0.236	-3.69	-9	1	6.27	0.01	1.0				
15:17:05	200	0.6	14.81	2.60	-0.21	0.23	-52.17	0.226	-4.43	-9	0	6.26	-0.01	1.0				
15:20:05	200	0.6	14.82	2.64	0.04	0.38	39.47	0.224	-0.89	-9	0	6.31	0.05	1.0				
15:23:05	200	0.6	14.78	2.64	0.00	0.21	-80.95	0.219	-2.15	-8	1	6.29	-0.02	1.0				

Well 610519 CTMW-24D FC5000T		Volume purged before 1st reading	1.2												12	1.6	0.10	
14:25:07	400		13.61	2.24		1.60		2.570		22		6.58		3.0	All parameters stable when sample was collected.			
14:28:05	400	1.2	13.55	2.24	0.00	1.31	-22.14	2.565	-0.19	17	-5	6.51	-0.07	3.0	Turbidity < 5 NTU			
14:31:17	400	1.2	13.61	1.95	-0.29	0.82	-59.76	2.570	0.19	13	-4	6.51	0.00	3.0	Do > 0.20 mg/L			
14:34:05	400	1.2	13.55	1.99	0.04	1.12	26.79	2.573	0.12	9	-4	6.45	-0.06	3.0				
14:37:05	400	1.2	13.58	1.81	-0.18	0.85	-31.76	2.579	0.23	5	-4	6.51	0.06	3.0				

Well 610419 CTMW-25 FC5000T		Volume purged before 1st reading	1.2												18	2.2	0.02	
10:15:05	400		14.39	2.21		3.72		1.248		9		6.47		3.0	All parameters stable when sample was collected.			
10:18:05	400	1.2	13.94	1.89	-0.32	1.01	-268.32	1.265	1.34	8	-1	6.47	0.00	3.0	Turbidity < 5 NTU			
10:21:05	400	1.2	13.94	1.65	-0.24	0.87	-16.09	1.313	3.66	7	-1	6.19	-0.28	3.0	Do > 0.20 mg/L			
10:24:05	400	1.2	13.99	1.48	-0.17	0.89	2.25	1.375	4.51	3	-4	6.35	0.16	3.0				
10:27:05	400	1.2	13.99	1.35	-0.13	1.13	21.24	1.438	4.38	-2	-5	6.65	0.30	3.0				
10:30:06	400	1.2	13.97	1.23	-0.12	0.77	-46.75	1.448	0.69	-6	-4	6.67	0.02	3.0				
10:33:12	400	1.2	13.99	1.24	0.01	0.66	-16.67	1.476	1.9	-10	-4	6.57	-0.10	3.0				

Well 610519 CTMW-5 FC5000T		Volume purged before 1st reading	1.2												18	2.2	0.18	
8:09:05	400		12.70	3.20		1.45		0.190		172		5.54		3.0	All parameters stable when sample was collected.			
8:12:05	400	1.2	12.65	2.71	-0.49	1.67	13.17	0.208	8.78	163	-9	5.88	0.34	3.0	Turbidity < 5 NTU			
8:15:05	400	1.2	12.64	2.50	-0.21	1.14	-46.49	0.225	7.21	153	-10	5.8	-0.08	3.0	Do > 0.20 mg/L			
8:18:05	400	1.2	12.55	2.33	-0.17	0.76	-50	0.235	4.51	145	-8	5.9	0.10	3.0				
8:21:05	400	1.2	12.49	2.08	-0.25	1.44	47.22	0.242	2.89	140	-5	5.95	0.05	3.0				
8:24:08	400	1.2	12.47	2.03	-0.05	1.56	7.69	0.245	1.26	135	-5	6	0.05	3.0				
8:27:05	400	1.2	12.46	1.93	-0.10	0.87	-79.31	0.248	1.01	132	-3	6.01	0.01	3.0				

Well 610519 CTMW-7 FC5000T		Volume purged before 1st reading	1.2												12	1.6	0.00	
9:31:05	400		14.24	2.09		5.50		2.280		106		6.34		3.0	All parameters stable when sample was collected.			
9:34:05	400	1.2	14.32	2.12	0.03	4.56	-20.61	2.326	1.98	87	-19	6.59	0.25	3.0	Turbidity < 5 NTU			
9:37:05	400	1.2	14.34	2.09	-0.03	1.65	-176.36	2.348	0.94	76	-11	6.63	0.04	3.0	Do > 0.20 mg/L			

Groundwater Quality Worksheet, Stericycle Tacoma Annual 2019

Time	Flow rate (ml/min)	Volume Purged (L)	Temp. (C)	Dissolved Oxygen		Turbidity		Specific Conductivity		Redox Potential		pH		Pump Speed (Hz or cpm)	Total Purge Time Before Stabilization (min)	Total Volume Purged at Stabilization (gallons)	Draw-down (0.01 ft)	Comments
				(ppm)	Relative Change (ppm) +/- 0.3ppm	(NTU)	Relative Change (%) +/- 10%	(mS/cm)	Relative Change (%) +/- 3%	(mV)	Relative Change (mV) +/- 10mV		Relative Change +/- 0.1					
9:40:10	400	1.2	14.33	2.01	-0.08	2.67	38.2	2.349	0.04	68	-8	6.69	0.06	3.0				
9:43:05	400	1.2	14.35	1.89	-0.12	1.88	-42.02	2.357	0.34	66	-2	6.62	-0.07	3.0				

Well 6\05\19 CTMW-8 FC5000T		Volume purged before 1st reading													15	1.0	2.42	
		0.6																
10:40:05	200		15.71	3.02		16.80		6.347		-165		11.6		1.0	All parameters stable when sample was collected.			
10:43:05	200	0.6	15.78	2.58	-0.44	9.59	-75.18	6.600	3.83	-187	-22	11.58	-0.02	1.0	Turbidity < 5 NTU			
10:46:05	200	0.6	15.79	2.24	-0.34	5.60	-71.25	6.695	1.42	-202	-15	11.87	0.29	1.0	Do > 0.20 mg/L			
10:49:08	200	0.6	15.81	2.38	0.14	3.33	-68.17	6.712	0.25	-212	-10	11.79	-0.08	1.0				
10:52:05	200	0.6	15.90	2.48	0.10	2.37	-40.51	6.700	-0.18	-218	-6	11.77	-0.02	1.0				
10:55:05	200	0.6	15.98	2.60	0.12	2.27	-4.41	6.679	-0.31	-220	-2	11.81	0.04	1.0				

Well 6\05\19 CTMW-9 FC5000T		Volume purged before 1st reading													12	1.6	0.09	
		1.2																
11:24:05	400		15.36	1.72		0.48		3.919		-33		6.97		3.0	All parameters stable when sample was collected.			
11:27:07	400	1.2	14.99	0.83	-0.89	0.36	-33.33	3.937	0.46	-18	15	6.89	-0.08	3.0	Turbidity < 5 NTU			
11:30:05	400	1.2	14.88	0.68	-0.15	0.56	35.71	3.897	-1.03	-15	3	6.75	-0.14	3.0	Do > 0.20 mg/L			
11:33:05	400	1.2	14.88	0.65	-0.03	0.44	-27.27	3.900	0.08	-15	0	6.8	0.05	3.0				
11:36:14	400	1.2	14.89	0.64	-0.01	0.50	12	3.902	0.05	-18	-3	6.78	-0.02	3.0				

GENERAL Field Event: Tacoma 2Q19 Date (mm / dd / yyyy): 6 / 03 / 2019
PERSONNEL Name(s): Jimmy McKechnie/Slavik Karashchuk Organization: Stericycle
LIQUID-LEVEL METER Brand: WLM Series Water Level Meter Model: Mini EZ Reel Serial No.: 001

Well or Piezometer	Dedicated Pump (VERIFY) (X = yes)	Well Venting		Liquid-Level Measurement			Total Well Depth (4 th Q only) (feet)	Comments	NOTES
		Time (24-h clock) (hh:mm)	Headspace PID Reading (ppm)	Time (24-h clock) (hh:mm)	Depth to LNAPL (feet)	Depth to Water (feet)			
CTMW-1	--	0722		1009	5.47	N/A		LNAPL too viscous for WL/ Purged ~ 80 ml of product.	Inner casing for accurate water levels
CTMW-5	x	0712		0922		5.90			
CTMW-6	--	N/A		N/A	N/A	N/A		Abandoned	Inner casing for accurate water levels
CTMW-7	x	0714		0841		12.30			
CTMW-8	x	0641		0838		6.55			
CTMW-9	--	0642		0836		11.81			
CTMW-10	--	0646		1000	N/A	4.86		No LNAPL present.	Inner casing for accurate water levels
CTMW-12		0617		0813		15.74			
CTMW-14	--	0638		0834		8.23			
CTMW-15	--	0659		0913		6.55			
CTMW-17	x	0622		0818		10.30			
CTMW-17D	--	0620		0816		14.05		H2O in monument.	
CTMW-18	x	0716		0925		9.78			
CTMW-20	--	0705		0919		3.15			
CTMW-24		0634		0831		8.32			
CTMW-24D		0635		0829		13.75			
CTMW-25D		0700		0915		10.70			
PZ-1	--	0720		1026	4.37	N/A		LNAPL too viscous for WL/ Purged ~ 80 ml of product.	
PZ-5	--	0615		0810		4.80			
PZ-6	--	N/A		N/A	N/A	N/A		Abandoned	Inner casing for accurate water levels
PZ-7		0631		0826		12.39			
PZ-8	--	0629		0822		8.65			
PZ-9	--	0626		0820		7.62			
PZ-10	--	N/A		N/A		N/A		Abandoned	
MW-1	--	0910		N/A	N/A	3.00		Trace of LNAPL	Inner casing for accurate water levels
TP-1		N/A		N/A		N/A		Abandoned	

Well or Piezometer	Dedicated Pump (VERIFY) (X = yes)	Well Venting		Liquid-Level Measurement			Total Well Depth (4 th Q only) (feet)	Comments	NOTES
		Time (24-h clock) (hh:mm)	Headspace PID Reading (ppm)	Time (24-h clock) (hh:mm)	Depth to LNAPL (feet)	Depth to Water (feet)			
TP-2	--	N/A		N/A		N/A		Abandoned	
TP-3	--	N/A		N/A		N/A		Abandoned	
TP-4	--	N/A		N/A		N/A		Abandoned	
TP-5	--	N/A		N/A		N/A		Abandoned	
TP-6	--	N/A		N/A		N/A		Unable to locate.	
TP-7	--	N/A		N/A		N/A		Unable to locate/ Trailer parked on top	
TP-8	--	N/A		N/A		N/A		Unable to locate/ Trailer parked on top	
TP-9	--	N/A		N/A		N/A		Unable to locate.	
TP-10	--	N/A		N/A		N/A		Unable to locate.	
SB-1A	--	0743		0942		5.45			
SB-2A	--	0738		0946		5.94			
SB-3A	--	0735		0935		5.28			
CCW-2A	--	0755		0853		4.48		H2O in monument/ Bolts stripped.	
CCW-2B	--	0753		0855		4.12		H2O in monument.	
CCW-2C	--	0757		0851		9.50		Bolts stripped/ Missing 1 bolt.	
CCW-3A	--	0803		0902		5.33			
CCW-3B	--	0804		0904		6.18			
CCW-3C	--	0802		0900		13.04			
CCW-5B	--	N/A		N/A		N/A		Unable to access/ overgrown ivy and blackberry bush.	
CCW-5C	--	N/A		N/A		N/A		Unable to access/ overgrown ivy and blackberry bush.	

Notes:

- (1) Shading indicates wells/piezometers with a history of LNAPL accumulation.
- (2) **Bold** indicates wells/piezometers whose water levels must be measured within a single one-hour period.

GENERAL Field Event: Tacoma 4Q19 Date (mm / dd / yyyy): 12 / 02 / 2019
 PERSONNEL Name(s): Jimmy McKechnie/Slavik Karashchuk Organization: Stericycle
 LIQUID-LEVEL METER Brand: WLM Series Water Level Meter Model: Mini EZ Reel Serial No.: 001

Well or Piezometer	Dedicated Pump (VERIFY) (X = yes)	Well Venting		Liquid-Level Measurement			Total Well Depth (4 th Q only) (feet)	Comments	NOTES
		Time (24-h clock) (hh:mm)	Headspace PID Reading (ppm)	Time (24-h clock) (hh:mm)	Depth to LNAPL (feet)	Depth to Water (feet)			
CTMW-1	--	1017		1206	5.87	N/A		LNAPL to viscous for WL/ Purged ~ 80 ml of product	Inner casing for accurate water levels
CTMW-5	X	1023		1151		6.13			
CTMW-6	--	N/A		N/A		N/A		Well abandoned	Inner casing for accurate water levels
CTMW-7	X	1024		1045		13.62 <i>12.73 per initial WL.</i>			
CTMW-8	X	0957		1034		6.57			
CTMW-9	--	0958		1032		12.28			
CTMW-10	--	0959		1159	N/A	5.83		No LNAPL present/ Did not purge	Inner casing for accurate water levels
CTMW-12		0943		1042		16.19			
CTMW-14	--	0956		1135		7.47			
CTMW-15	--	1012		1146		6.37			
CTMW-17	X	0938		1040		10.15			
CTMW-17D	--	0939		1038		14.33		H2O in Monument.	
CTMW-18	X	1025		1154		9.89			
CTMW-20	--	N/A		N/A		N/A		Trailer parked on top of well.	
CTMW-24		0952		1134		7.95			
CTMW-24D		0953		1132		14.20			
CTMW-25D		1013		1148		10.86			
PZ-1	--	1020		1220	3.59	N/A		LNAPL to viscous for WL/ Purged ~ 60 ml of product	
PZ-5	--	0934		1116		4.89			
PZ-6	--	N/A		N/A		N/A		Well abandoned.	Inner casing for accurate water levels
PZ-7		0950		1129		13.00			
PZ-8	--	0948		1125		8.60			
PZ-9	--	0947		1122		7.24			
PZ-10	--	N/A		N/A		N/A		Well abandoned.	
MW-1	--	1016		1203	N/A	4.15		No LNAPL present/ Did not purge	Inner casing for accurate water levels
TP-1		N/A		N/A		N/A		Well abandoned.	

Well or Piezometer	Dedicated Pump (VERIFY) (X = yes)	Well Venting		Liquid-Level Measurement			Total Well Depth (4 th Q only) (feet)	Comments	NOTES
		Time (24-h clock) (hh:mm)	Headspace PID Reading (ppm)	Time (24-h clock) (hh:mm)	Depth to LNAPL (feet)	Depth to Water (feet)			
TP-2	--	N/A		N/A		N/A		Well abandoned.	
TP-3	--	N/A		N/A		N/A		Well abandoned.	
TP-4	--	N/A		N/A		N/A		Well abandoned.	
TP-5	--	N/A		N/A		N/A		Well abandoned.	
TP-6	--	1002		1137		2.85			
TP-7	--	N/A		N/A		N/A		Trailer parked on top of well.	
TP-8	--	1004		1139		2.50			
TP-9	--	1010		1141		2.42			
TP-10	--	1011		1143		2.85			
SB-1A	--	0915		1105		6.13			
SB-2A	--	0916		1103		6.34			
SB-3A	--	0912		1107		5.51			
CCW-2A	--	0926		1059		4.23		H2O in Monument.	
CCW-2B	--	0927		1057		4.17			
CCW-2C	--	0925		1101		9.71			
CCW-3A	--	0922		1053		5.34			
CCW-3B	--	0923		1055		5.96			
CCW-3C	--	0921		1051		13.25			
CCW-5B	--	N/A		N/A		N/A		Unable to access due to blackberry bushes	
CCW-5C	--	N/A		N/A		N/A		Unable to access due to blackberry bushes	

Notes:

(1) Shading indicates wells/piezometers with a history of LNAPL accumulation.

(2) **Bold** indicates wells/piezometers whose water levels must be measured within a single one-hour period.

**TABLE 4-2. FLUID LEVEL ELEVATION DATA SUMMARY
EMERALD SERVICES, INC., TACOMA, WASHINGTON**

Location	Date/Time Measured	Measuring Point Elevation	Ground Surface Elevation	Depth to Water	Water Elevation	Depth Gauged
		(ft-msl)	(ft-msl)	(ft-bmp)	(ft-msl)	(ft-bmp)
Second Quarter						
MW-1	6/3/19 9:30	14.07	14.46	3.02	11.05	7.09
MW-2R	6/3/19 9:50	13.79	14.23	3.10	10.69	7.91
MW-3R	6/3/19 9:05	14.28	14.61	4.62	9.66	7.55
MW-4	6/3/19 9:20	14.11	14.40	3.29	10.82	8.95
Fourth Quarter						
MW-1	12/2/19 9:07	14.07	14.46	3.44	10.63	7.08
MW-2R	12/2/19 9:20	13.79	14.23	3.35	10.44	7.85
MW-3R	12/2/19 9:32	14.28	14.61	5.40	8.88	7.60
MW-4	12/2/19 9:43	14.11	14.40	3.84	10.27	9.22

Notes:

- ft-msl - feet above mean sea level
- ft-bmp - feet below measuring point
- ft-bgs - feet below ground surface

ATTACHMENT B



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July 03, 2019

Analytical Report for Service Request No: K1905207

Bill Beck
Stericycle Environmental Solutions
18000 72nd Ave SW
Suite 201
Kent, WA 98032

RE: Tacoma 2Q19 / 376.01

Dear Bill,

Enclosed are the results of the sample(s) submitted to our laboratory June 06, 2019
For your reference, these analyses have been assigned our service request number **K1905207**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at Mark.Harris@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Mark Harris
Project Manager



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Volatile Organic Compounds

1,4-Dioxane by GCMS

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19
Sample Matrix: Water

Service Request: K1905207
Date Received: 06/05/2019 - 06/06/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Twenty water samples were received for analysis at ALS Environmental between 06/05/2019 - 06/06/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270D SIM, 1,4-Dioxane by GC/MS 06/13/2019: The upper control criterion was exceeded for 1,4-Dioxane-d8 in sample CTMW-24-0619. No target analytes were detected in the sample. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Semivolatile GC:

No significant anomalies were noted with this analysis.

Metals:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

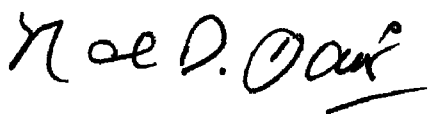
Method 8260C, 6/10/19; The ALS minimum relative response factor criterion for Isobutyl Alcohol was not met in Initial Calibration Verification (ICV) MS46\0508F021.D. In accordance with ALS standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verified instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question, the data quality was not significantly affected. No further corrective action was appropriate.

Method 8260C, 6/10/19; The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS46\0610F008.D: Iodomethane, Acetonitrile, Vinyl Acetate, 2-Butanone, Isobutyl Alcohol, 4-Methyl-2-pentanone, and 2-Hexanone. In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Method 8260C, 6/10/19; The ALS minimum relative response factor criterion for Acetonitrile and Isobutyl Alcohol was not met in Continuing Calibration Verification (CCV) MS46\0610F008.D. In accordance with ALS standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed each day of analysis. The MRL check standard verified instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compounds in question, the data quality was not significantly affected. No further corrective action was appropriate.

Method 8260C, 6/10/19; The Relative Percent Difference (RPD) for several analytes in the replicate Matrix Spikes (MS/DMS) KWG1902692-1 and KWG1902692-2 analyses of sample CTMW-7-0619 were outside control criteria. Spike recoveries of the affected compounds in the MS, DMS, and associated Laboratory Control Sample (LCS) were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

Method 8260C, 6/10/19; The recovery of 1,1,2-Trichloroethane in the Duplicate Duplicate Matrix Spike (DMS) KWG1902692-2 was outside the recovery control limits. The DMS is used to evaluate batch precision. The relative percent difference (RPD) was within control limits indicating the quality of the sample data was not significantly affected. No further corrective action was taken.

Approved by 

Date 07/03/2019



No further corrective action was required.

Method 8260C, 6/10/19; The advisory criterion was exceeded for Trichlorofluoromethane and Tetrachloroethene in Laboratory Control Sample (LCS) KWG1902692-3. As per the ALS/Kelso Standard Operating Procedure (SOP) for this method, this compound is not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound).

Method 8260C SIM, 6/18/19; The ALS minimum relative response factor criterion for 1,1,2,2-Tetrachloroethane was not met in Initial Calibration Verification (ICV) MS30\0618F020.D and Continuing Calibration Verification (CCV) MS30\0618F009.D. In accordance with ALS standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verified instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question, the data quality was not significantly affected. No further corrective action was appropriate.

Noel D. O'Neil

Approved by _____

Date 07/03/2019



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

PROJECT NAME <u>Tacoma 2019</u> # <u>376.01</u> PROJECT MANAGER <u>Bill Beck</u> COMPANY NAME <u>Stericycle</u> ADDRESS <u>18000 72nd Ave Suite # 201</u> <u>Kent WA 98032</u> PHONE <u>(206) 226 4873</u> SAMPLERS SIGNATURE <u>[Signature]</u>					NUMBER OF CONTAINERS VOC by 8260B VOC by 8260B W51M 2-CLE TPH Gasoline by W7PH-6x TPH Diesel by W7PH-6x 1,4-Dioxane by W7DM Total Metals by 8270c Mercury by 7470A Dissolved Metals by 8020 Dissolved Mercury by 7470A	ANALYSIS REQUESTED Sample Depth <u>K1905207</u>												
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX														
Trip Blank #1-0619	6-4-19	0651		H2O	8	2	2	2	2								-	
CTMW-14-0619		0809			11	3	3	3				1-x	1-x				9.90	caution High Turbidity
CTMW-15-0619		0937			14	3	3	3		2	1	1-x	1-x				9.00	
CTMW-25D-0619		1033			13	3	3	3		2	1	1-x					19.7	
CTMW-20-0619	↓	1138			15	3	3	3	3	2		1-x					6.60	

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # 376.01
 Bill To: Bill Beck
Stericycle

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr. ___ 5 day
 Standard (10-15 working days)
 ___ Provide Verbal Preliminary Results
 ___ Provide FAX preliminary Results
 Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al Sb Ba Be B Ca Cd Co Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

custody seals on coolers
shipped via Fed Ex
*Note - Limited volume for CTMW-14 we will collect remaining samples once the well recovers.

Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:

[Signature] 6-4-19/1430
 Signature Slavik KARASHCHUK Date/Time Stericycle
 Printed Name Firm

RECEIVED BY:

[Signature] 6-5-19 9:55
 Signature Nanni Pedersen Date/Time AS
 Printed Name Firm

RELINQUISHED BY:

 Signature Date/Time
 Printed Name Firm

RECEIVED BY:

 Signature Date/Time
 Printed Name Firm

Lab Instructions for
Stericycle Tacoma Facility
2nd Quarter 2019
Groundwater Monitoring Event

1. Analyze by Methods:

VOC by 8260B
VOC by 8260B w/SIM
2-Chloroethyl Vinyl Ether
1,4-Dioxane by 8270C w/SIM
TPH-Diesel by NWTPH-Dx with acid silica-gel cleanup
TPH-Gasoline by NWTPH-Gx
Total Metals by 6020 (including mercury by 7470A)
Reductive Precipitation

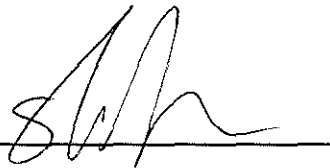
2. Total metals include:

Arsenic
Cadmium
Chromium
Copper
Nickel
Zinc
Lead
Mercury by 7470A

3. Dissolved Metals (including Dissolved Mercury)

Total metals samples with a turbidity > 5 NTU will be accompanied by field filtered samples and will be labeled as (Dissolved Metals/ Dissolved Mercury).

RELINQUISHED BY:



DATE: 6-4-19

TIME: 1430

Received: NPedersen 6-5-19 9:55

Page 2 of 2



PC MH

Cooler Receipt and Preservation Form

Client Stericycle Service Request K19 05207
Received: 6-5-19 Opened: 6-5-19 By: NP Unloaded: 6-5-19 By: NP

- 1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
- 2. Samples were received in: (circle) Cooler Box Envelope Other _____ NA
- 3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
0.0	-0.2	5.2	5.0	-0.2	390	NA	7876 7689 6033		

- 4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
- 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- 6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
- 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
- 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below. NA Y N
- 11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
- 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
NP											
Trip Blank #1-6017	7										
Trip Blank #1-6019	7										

Notes, Discrepancies, & Resolutions: _____

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

K1905207

PROJECT NAME Tacoma 2019 # 376.01
 PROJECT MANAGER Bill Beck
 COMPANY NAME Stericycle
 ADDRESS 18000 72nd Ave S. Suite 201
Kent WA 98032
 PHONE (206) 226-4873

SAMPLERS SIGNATURE

ANALYSIS REQUESTED

NUMBER OF CONTAINERS

VOC by 8260B
 VOC by 8260B w/SLIM
 2-CVE
 TPH-Gasoline by w/SLIM
 NWTPH-GA
 1,4-Dioxane by w/SLIM
 TPH-Diesel by 8260C
 NWTPH-DX
 Reductive Precipitations
 Total Metals by 6020
 Mercury by 7470A
 Sample Depth

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	ANALYSIS REQUESTED										REMARKS									
Trip Blank # 2-0619	6-5-19	0650		H2O	3	2	2	2	2														-	
CTMW-14-0619		0735			2											2								9.90 Caution High Turbidity
CTMW-5-0619		0827			13	3	3	3		1	2									1	X			9.95
CTMW-18-0619		0902			22	3	3	3	4	1	2													12.4 Extra volume for MS, MSD
CTMW-9-18-0619		0902			3				3															12.4
CTMW-7-0619		0943			40	4	4	4		3	6	1												25.0 Extra Volume for MS, MSD
CTMW-9-7-0619		0943			14	3	3	3		1	2	1												25.0
CTMW-8-0619		1055			14	3	3	3		1	2	1												9.10
CTMW-9-0619		1136			14	3	3	3		1	2	1												24.0
CTMW-17-0619	↓	1231		↓	12	3	3	3			2													14.0

REPORT REQUIREMENTS

I. Routine Report: Method Blank, Surrogate, as required

II. Report Dup., MS, MSD as required

III. CLP Like Summary (no raw data)

IV. Data Validation Report

V. EDD

INVOICE INFORMATION
 P.O. # 376.01
 Bill To: Bill Beck
Stericycle

TURNAROUND REQUIREMENTS
 24 hr. 48 hr. 5 day
 Standard (10-15 working days)
 Provide Verbal Preliminary Results
 Provide FAX preliminary Results
 Requested Report Date _____

Circle which metals are to be analyzed:
 Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
custody seals on coolers
Slavik KARASHCHUK delivered samples to ALS
This is the end of Tacoma 2019 Sampling event.

Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY: Signature <u>Slavik Karashchuk</u> Printed Name <u>Slavik Karashchuk</u> Firm Date/Time <u>6/5/19 1110</u>	RECEIVED BY: Signature <u>Fran Slavik</u> Printed Name <u>Fran Slavik</u> Firm Date/Time <u>6/6/19 1110</u> <u>ALS</u>	RELINQUISHED BY: Signature _____ Printed Name _____ Firm	RECEIVED BY: Signature _____ Printed Name _____ Firm
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1317 South 13th Ave. • Kelso, WA 98626 • +1 360 577 7222 • +1 800 695 7222 • FAX +1 360 636 1068

DATE 6-5-19 PAGE 2 OF 3

K1905207

PROJECT INFORMATION					NUMBER OF CONTAINERS	ANALYSIS REQUESTED												REMARKS					
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX		VOC by 8260B	VOC by 8260B w/Sim	2-CVE	1,4-Dioxane by 8270c w/Sim	TPH-Diesel by 8270c	TPH-Diesel by NW-TPH-Dx	Total Metals by 6020	Mercury by 7470A										Sample Depth
CTMW-17D-0619	6-5-19	1312		H2O	12	3	3	3		2	1	X											28.0
Field Blank #1-0619		1325			13	3	3	3	1	2	1	X											1
CTMW-12-0619		1354			12	3	3	3		2	1	X											26.0
CTMW-24D-0619		1437			13	3	3	3	1	2	1	X											24.0
CTMW-24-0619	↓	1523		↓	13	3	3	3	1	2	1	X											11.1

REPORT REQUIREMENTS

— I. Routine Report: Method Blank, Surrogate, as required

— II. Report Dup., MS, MSD as required

— III. CLP Like Summary (no raw data)

IV. Data Validation Report

— V. EDD

INVOICE INFORMATION

P.O. # 376.01

Bill To: Bill Beck
Stericycle

TURNAROUND REQUIREMENTS

— 24 hr. — 48 hr. — 5 day

Standard (10-15 working days)

— Provide Verbal Preliminary Results

— Provide FAX preliminary Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:

[Signature] 6-6-19/1110
Signature Date/Time
Slavik Karasichuk Stericycle
Printed Name Firm

RECEIVED BY: 6/6/19 1110

[Signature] [Signature]
Signature Date/Time
[Printed Name] ALS
Printed Name Firm

RELINQUISHED BY:

Signature Date/Time

Printed Name Firm

RECEIVED BY:

Signature Date/Time

Printed Name Firm

K1905207

Lab Instructions for
Stericycle Tacoma Facility
2nd Quarter 2019
Groundwater Monitoring Event

1. Analyze by Methods:

VOC by 8260B
VOC by 8260B w/SIM
2-Chloroethyl Vinyl Ether
1,4-Dioxane by 8270C w/SIM
TPH-Diesel by NWTPH-Dx with acid silica-gel cleanup
TPH-Gasoline by NWTPH-Gx
Total Metals by 6020 (including mercury by 7470A)
Reductive Precipitation

2. Total metals include:

Arsenic
Cadmium
Chromium
Copper
Nickel
Zinc
Lead
Mercury by 7470A

3. Dissolved Metals (including Dissolved Mercury)

Total metals samples with a turbidity > 5 NTU will be accompanied by field filtered samples and will be labeled as (Dissolved Metals/ Dissolved Mercury).

RELINQUISHED BY:



DATE: 6-6-19

TIME: 1110

Page 3 of 3



PC MH

Cooler Receipt and Preservation Form

Client Stericycle Service Request K19 05207
 Received: 6/6/19 Opened: 6/6/19 By: CG Unloaded: 6/6/19 By: CG

- Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
- Samples were received in: (circle) Cooler Box Envelope Other NA
- Were custody seals on coolers? NA Y N If yes, how many and where? 1 Front
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	NA	Tracking Number	NA	Filed
-0.7	-0.9	4.5	4.3	-0.2	384	3/3			<u>NA</u>	
0.0	0.0	—	—	0.0	323	2/3				
0.2	0.4	4.0	4.2	+0.2	349	1/3				

- Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
- Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
 If applicable, tissue samples were received: Frozen Partially Thawed Thawed
- Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
- Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? Indicate in the table below NA Y N
- Were VOA vials received without headspace? Indicate in the table below. NA Y N
- Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
<u>CTMW-8-0619</u>	<u>1</u>	<u>1.125mL, P</u>				<u>X</u>	<u>HNO3</u>	<u>0.5ml</u>	<u>RE1-484</u>	<u>CG</u>	<u>1340</u>
<u>T-9-T</u>	<u>1</u>	<u>T</u>				<u>X</u>	<u>T</u>	<u>T</u>	<u>T</u>	<u>CG</u>	<u>1340</u>

Notes, Discrepancies, & Resolutions: pH did not adjust to <2 upon preservation of either sample.



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-14-0619
Lab Code: K1905207-002

Service Request: K1905207
Date Collected: 06/04/19 08:09
Date Received: 06/05/19 09:55

Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00272	mg/L	0.00050	0.00009	1	06/14/19 14:14	06/11/19	
Cadmium	6020A	0.000148	mg/L	0.000020	0.000008	1	06/14/19 14:14	06/11/19	
Chromium	6020A	0.00159	mg/L	0.00020	0.00003	1	06/14/19 14:14	06/11/19	
Copper	6020A	0.00551	mg/L	0.00010	0.00005	1	06/14/19 14:14	06/11/19	
Lead	6020A	0.00142	mg/L	0.000020	0.000006	1	06/14/19 14:14	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:25	06/13/19	
Nickel	6020A	0.00186	mg/L	0.00020	0.00004	1	06/14/19 14:14	06/11/19	
Zinc	6020A	0.0076	mg/L	0.0020	0.0005	1	06/14/19 14:14	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-14-0619
Lab Code: K1905207-002

Service Request: K1905207
Date Collected: 06/04/19 08:09
Date Received: 06/05/19 09:55
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00824	mg/L	0.00050	0.00009	1	06/14/19 12:44	06/11/19	
Cadmium	6020A	0.000708	mg/L	0.000020	0.000008	1	06/14/19 12:44	06/11/19	
Chromium	6020A	0.0213	mg/L	0.00020	0.00003	1	06/14/19 12:44	06/11/19	
Copper	6020A	0.0874	mg/L	0.00010	0.00005	1	06/14/19 12:44	06/11/19	
Lead	6020A	0.0325	mg/L	0.000020	0.000006	1	06/14/19 12:44	06/11/19	
Nickel	6020A	0.0146	mg/L	0.00020	0.00004	1	06/14/19 12:44	06/11/19	
Zinc	6020A	0.0853	mg/L	0.0020	0.0005	1	06/14/19 12:44	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-15-0619
Lab Code: K1905207-003

Service Request: K1905207
Date Collected: 06/04/19 09:37
Date Received: 06/05/19 09:55

Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00079	mg/L	0.00050	0.00009	1	06/14/19 14:16	06/11/19	
Cadmium	6020A	0.000053	mg/L	0.000020	0.000008	1	06/14/19 14:16	06/11/19	
Chromium	6020A	0.00036	mg/L	0.00020	0.00003	1	06/14/19 14:16	06/11/19	
Copper	6020A	0.00027	mg/L	0.00010	0.00005	1	06/14/19 14:16	06/11/19	
Lead	6020A	0.000014 J	mg/L	0.000020	0.000006	1	06/14/19 14:16	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:26	06/13/19	
Nickel	6020A	0.00090	mg/L	0.00020	0.00004	1	06/14/19 14:16	06/11/19	
Zinc	6020A	0.0024	mg/L	0.0020	0.0005	1	06/14/19 14:16	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-15-0619
Lab Code: K1905207-003

Service Request: K1905207
Date Collected: 06/04/19 09:37
Date Received: 06/05/19 09:55

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00159	mg/L	0.00050	0.00009	1	06/14/19 12:46	06/11/19	
Cadmium	6020A	0.000119	mg/L	0.000020	0.000008	1	06/14/19 12:46	06/11/19	
Chromium	6020A	0.00049	mg/L	0.00020	0.00003	1	06/14/19 12:46	06/11/19	
Copper	6020A	0.00061	mg/L	0.00010	0.00005	1	06/14/19 12:46	06/11/19	
Lead	6020A	0.000069	mg/L	0.000020	0.000006	1	06/14/19 12:46	06/11/19	
Nickel	6020A	0.00098	mg/L	0.00020	0.00004	1	06/14/19 12:46	06/11/19	
Zinc	6020A	0.0015 J	mg/L	0.0020	0.0005	1	06/14/19 12:46	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-25D-0619
Lab Code: K1905207-004

Service Request: K1905207
Date Collected: 06/04/19 10:33
Date Received: 06/05/19 09:55
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00225	mg/L	0.00050	0.00009	1	06/14/19 12:48	06/11/19	
Cadmium	6020A	0.000011 J	mg/L	0.000020	0.000008	1	06/14/19 12:48	06/11/19	
Chromium	6020A	0.0201	mg/L	0.00020	0.00003	1	06/14/19 12:48	06/11/19	
Copper	6020A	0.00308	mg/L	0.00010	0.00005	1	06/14/19 12:48	06/11/19	
Lead	6020A	0.000277	mg/L	0.000020	0.000006	1	06/14/19 12:48	06/11/19	
Nickel	6020A	0.00529	mg/L	0.00020	0.00004	1	06/14/19 12:48	06/11/19	
Zinc	6020A	0.0012 J	mg/L	0.0020	0.0005	1	06/14/19 12:48	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-20-0619
Lab Code: K1905207-005

Service Request: K1905207
Date Collected: 06/04/19 11:38
Date Received: 06/05/19 09:55

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00203	mg/L	0.00050	0.00009	1	06/14/19 12:56	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 12:56	06/11/19	
Chromium	6020A	0.00046	mg/L	0.00020	0.00003	1	06/14/19 12:56	06/11/19	
Copper	6020A	0.00067	mg/L	0.00010	0.00005	1	06/14/19 12:56	06/11/19	
Lead	6020A	0.000014 J	mg/L	0.000020	0.000006	1	06/14/19 12:56	06/11/19	
Nickel	6020A	0.00093	mg/L	0.00020	0.00004	1	06/14/19 12:56	06/11/19	
Zinc	6020A	ND U	mg/L	0.0020	0.0005	1	06/14/19 12:56	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-5-0619
Lab Code: K1905207-008

Service Request: K1905207
Date Collected: 06/05/19 08:27
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.0161	mg/L	0.00050	0.00009	1	06/14/19 12:58	06/11/19	
Cadmium	6020A	0.000086	mg/L	0.000020	0.000008	1	06/14/19 12:58	06/11/19	
Chromium	6020A	0.00284	mg/L	0.00020	0.00003	1	06/14/19 12:58	06/11/19	
Copper	6020A	0.00671	mg/L	0.00010	0.00005	1	06/14/19 12:58	06/11/19	
Lead	6020A	0.000986	mg/L	0.000020	0.000006	1	06/14/19 12:58	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:28	06/13/19	
Nickel	6020A	0.00497	mg/L	0.00020	0.00004	1	06/14/19 12:58	06/11/19	
Zinc	6020A	0.0256	mg/L	0.0020	0.0005	1	06/14/19 12:58	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-18-0619
Lab Code: K1905207-009

Service Request: K1905207
Date Collected: 06/05/19 09:02
Date Received: 06/06/19 11:10
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00863	mg/L	0.00050	0.00009	1	06/14/19 13:01	06/11/19	
Cadmium	6020A	0.000043	mg/L	0.000020	0.000008	1	06/14/19 13:01	06/11/19	
Chromium	6020A	0.00047	mg/L	0.00020	0.00003	1	06/14/19 13:01	06/11/19	
Copper	6020A	0.00103	mg/L	0.00010	0.00005	1	06/14/19 13:01	06/11/19	
Lead	6020A	0.000288	mg/L	0.000020	0.000006	1	06/14/19 13:01	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:30	06/13/19	
Nickel	6020A	0.00772	mg/L	0.00020	0.00004	1	06/14/19 13:01	06/11/19	
Zinc	6020A	0.0008 J	mg/L	0.0020	0.0005	1	06/14/19 13:01	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-7-0619
Lab Code: K1905207-011

Service Request: K1905207
Date Collected: 06/05/19 09:43
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00039 J	mg/L	0.00050	0.00009	1	06/14/19 13:03	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 13:03	06/11/19	
Chromium	6020A	0.00383	mg/L	0.00020	0.00003	1	06/14/19 13:03	06/11/19	
Copper	6020A	0.00013	mg/L	0.00010	0.00005	1	06/14/19 13:03	06/11/19	
Lead	6020A	0.000015 J	mg/L	0.000020	0.000006	1	06/14/19 13:03	06/11/19	
Mercury	7470A	0.02 J	ug/L	0.20	0.02	1	06/15/19 11:31	06/13/19	
Nickel	6020A	0.00260	mg/L	0.00020	0.00004	1	06/14/19 13:03	06/11/19	
Zinc	6020A	0.0018 J	mg/L	0.0020	0.0005	1	06/14/19 13:03	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012

Service Request: K1905207
Date Collected: 06/05/19 09:43
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00041 J	mg/L	0.00050	0.00009	1	06/14/19 13:15	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 13:15	06/11/19	
Chromium	6020A	0.00394	mg/L	0.00020	0.00003	1	06/14/19 13:15	06/11/19	
Copper	6020A	0.00015	mg/L	0.00010	0.00005	1	06/14/19 13:15	06/11/19	
Lead	6020A	0.000018 J	mg/L	0.000020	0.000006	1	06/14/19 13:15	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:41	06/13/19	
Nickel	6020A	0.00264	mg/L	0.00020	0.00004	1	06/14/19 13:15	06/11/19	
Zinc	6020A	0.0016 J	mg/L	0.0020	0.0005	1	06/14/19 13:15	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-8-0619
Lab Code: K1905207-013

Service Request: K1905207
Date Collected: 06/05/19 10:55
Date Received: 06/06/19 11:10
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.0230	mg/L	0.00050	0.00009	1	06/18/19 16:32	06/11/19	
Cadmium	6020A	0.000036	mg/L	0.000020	0.000008	1	06/18/19 16:32	06/11/19	
Chromium	6020A	0.00012 J	mg/L	0.00020	0.00003	1	06/18/19 16:32	06/11/19	
Copper	6020A	0.00077	mg/L	0.00010	0.00005	1	06/18/19 16:32	06/11/19	
Lead	6020A	0.000438	mg/L	0.000020	0.000006	1	06/18/19 16:32	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:43	06/13/19	
Nickel	6020A	0.00176	mg/L	0.00020	0.00004	1	06/18/19 16:32	06/11/19	
Zinc	6020A	0.0019 J	mg/L	0.0020	0.0005	1	06/18/19 16:32	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-9-0619
Lab Code: K1905207-014

Service Request: K1905207
Date Collected: 06/05/19 11:36
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00078	mg/L	0.00050	0.00009	1	06/14/19 13:51	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 13:51	06/11/19	
Chromium	6020A	0.00606	mg/L	0.00020	0.00003	1	06/14/19 13:51	06/11/19	
Copper	6020A	0.00031	mg/L	0.00010	0.00005	1	06/14/19 13:51	06/11/19	
Lead	6020A	0.000169	mg/L	0.000020	0.000006	1	06/14/19 13:51	06/11/19	
Mercury	7470A	0.06 J	ug/L	0.20	0.02	1	06/15/19 11:44	06/13/19	
Nickel	6020A	0.00557	mg/L	0.00020	0.00004	1	06/14/19 13:51	06/11/19	
Zinc	6020A	0.0008 J	mg/L	0.0020	0.0005	1	06/14/19 13:51	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-17-0619
Lab Code: K1905207-015

Service Request: K1905207
Date Collected: 06/05/19 12:31
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.0139	mg/L	0.00050	0.00009	1	06/14/19 13:56	06/11/19	
Cadmium	6020A	0.00473	mg/L	0.000020	0.000008	1	06/14/19 13:56	06/11/19	
Chromium	6020A	0.00235	mg/L	0.00020	0.00003	1	06/14/19 13:56	06/11/19	
Copper	6020A	0.0824	mg/L	0.00010	0.00005	1	06/14/19 13:56	06/11/19	
Lead	6020A	0.0355	mg/L	0.000020	0.000006	1	06/14/19 13:56	06/11/19	
Mercury	7470A	0.02 J	ug/L	0.20	0.02	1	06/15/19 11:46	06/13/19	
Nickel	6020A	0.0206	mg/L	0.00020	0.00004	1	06/14/19 13:56	06/11/19	
Zinc	6020A	0.550	mg/L	0.0020	0.0005	1	06/14/19 13:56	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-17D-0619
Lab Code: K1905207-016

Service Request: K1905207
Date Collected: 06/05/19 13:12
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00045 J	mg/L	0.00050	0.00009	1	06/14/19 14:01	06/11/19	
Cadmium	6020A	0.000048	mg/L	0.000020	0.000008	1	06/14/19 14:01	06/11/19	
Chromium	6020A	0.00350	mg/L	0.00020	0.00003	1	06/14/19 14:01	06/11/19	
Copper	6020A	0.00027	mg/L	0.00010	0.00005	1	06/14/19 14:01	06/11/19	
Lead	6020A	0.000151	mg/L	0.000020	0.000006	1	06/14/19 14:01	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:48	06/13/19	
Nickel	6020A	0.00355	mg/L	0.00020	0.00004	1	06/14/19 14:01	06/11/19	
Zinc	6020A	0.0229	mg/L	0.0020	0.0005	1	06/14/19 14:01	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: Field Blank#1-0619
Lab Code: K1905207-017

Service Request: K1905207
Date Collected: 06/05/19 13:25
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	ND U	mg/L	0.00050	0.00009	1	06/14/19 14:04	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 14:04	06/11/19	
Chromium	6020A	0.00054	mg/L	0.00020	0.00003	1	06/14/19 14:04	06/11/19	
Copper	6020A	0.00008 J	mg/L	0.00010	0.00005	1	06/14/19 14:04	06/11/19	
Lead	6020A	0.000012 J	mg/L	0.000020	0.000006	1	06/14/19 14:04	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:49	06/13/19	
Nickel	6020A	0.00009 J	mg/L	0.00020	0.00004	1	06/14/19 14:04	06/11/19	
Zinc	6020A	0.0009 J	mg/L	0.0020	0.0005	1	06/14/19 14:04	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-12-0619
Lab Code: K1905207-018

Service Request: K1905207
Date Collected: 06/05/19 13:54
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00032 J	mg/L	0.00050	0.00009	1	06/14/19 14:06	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 14:06	06/11/19	
Chromium	6020A	0.00459	mg/L	0.00020	0.00003	1	06/14/19 14:06	06/11/19	
Copper	6020A	0.00045	mg/L	0.00010	0.00005	1	06/14/19 14:06	06/11/19	
Lead	6020A	0.000039	mg/L	0.000020	0.000006	1	06/14/19 14:06	06/11/19	
Mercury	7470A	0.03 J	ug/L	0.20	0.02	1	06/15/19 11:51	06/13/19	
Nickel	6020A	0.00078	mg/L	0.00020	0.00004	1	06/14/19 14:06	06/11/19	
Zinc	6020A	0.0008 J	mg/L	0.0020	0.0005	1	06/14/19 14:06	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-24D-0619
Lab Code: K1905207-019

Service Request: K1905207
Date Collected: 06/05/19 14:37
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00075	mg/L	0.00050	0.00009	1	06/14/19 14:09	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 14:09	06/11/19	
Chromium	6020A	0.00562	mg/L	0.00020	0.00003	1	06/14/19 14:09	06/11/19	
Copper	6020A	0.00039	mg/L	0.00010	0.00005	1	06/14/19 14:09	06/11/19	
Lead	6020A	0.000045	mg/L	0.000020	0.000006	1	06/14/19 14:09	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:52	06/13/19	
Nickel	6020A	0.00079	mg/L	0.00020	0.00004	1	06/14/19 14:09	06/11/19	
Zinc	6020A	0.0005 J	mg/L	0.0020	0.0005	1	06/14/19 14:09	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: CTMW-24-0619
Lab Code: K1905207-020

Service Request: K1905207
Date Collected: 06/05/19 15:23
Date Received: 06/06/19 11:10

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	0.00158	mg/L	0.00050	0.00009	1	06/14/19 14:11	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 14:11	06/11/19	
Chromium	6020A	0.00025	mg/L	0.00020	0.00003	1	06/14/19 14:11	06/11/19	
Copper	6020A	0.00024	mg/L	0.00010	0.00005	1	06/14/19 14:11	06/11/19	
Lead	6020A	0.000084	mg/L	0.000020	0.000006	1	06/14/19 14:11	06/11/19	
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:54	06/13/19	
Nickel	6020A	0.00252	mg/L	0.00020	0.00004	1	06/14/19 14:11	06/11/19	
Zinc	6020A	0.0044	mg/L	0.0020	0.0005	1	06/14/19 14:11	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: KQ1907873-01

Service Request: K1905207
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	ND U	mg/L	0.00050	0.00009	1	06/14/19 12:39	06/11/19	
Cadmium	6020A	ND U	mg/L	0.000020	0.000008	1	06/14/19 12:39	06/11/19	
Chromium	6020A	ND U	mg/L	0.00020	0.00003	1	06/14/19 12:39	06/11/19	
Copper	6020A	ND U	mg/L	0.00010	0.00005	1	06/14/19 12:39	06/11/19	
Lead	6020A	ND U	mg/L	0.000020	0.000006	1	06/14/19 12:39	06/11/19	
Nickel	6020A	ND U	mg/L	0.00020	0.00004	1	06/14/19 12:39	06/11/19	
Zinc	6020A	ND U	mg/L	0.0020	0.0005	1	06/14/19 12:39	06/11/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: KQ1907872-01

Service Request: K1905207
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Mercury	7470A	ND U	ug/L	0.20	0.02	1	06/15/19 11:22	06/13/19	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/14/19

Replicate Sample Summary

Total Metals

Sample Name: CTMW-7-0619
Lab Code: K1905207-011

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ1907873-03 Result			
Arsenic	6020A	0.00050	0.00009	0.00039 J	0.00036 J	0.00038	8	20
Cadmium	6020A	0.000020	0.000008	ND U	ND U	ND	-	20
Chromium	6020A	0.00020	0.00003	0.00383	0.00389	0.00386	2	20
Copper	6020A	0.00010	0.00005	0.00013	0.00014	0.00014	7	20
Lead	6020A	0.000020	0.000006	0.000015 J	0.000016 J	0.000016	6	20
Nickel	6020A	0.00020	0.00004	0.00260	0.00252	0.00256	3	20
Zinc	6020A	0.0020	0.0005	0.0018 J	0.0017 J	0.0018	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/15/19

Replicate Sample Summary
Total Metals

Sample Name: CTMW-7-0619
Lab Code: K1905207-011

Units: ug/L
Basis: NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ1907872-03 Result			
Mercury	7470A	0.20	0.02	0.02 J	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/14/19
Date Extracted: 06/11/19

Matrix Spike Summary
Total Metals

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Analysis Method: 6020A
Prep Method: EPA CLP ILM04.0

Units: mg/L
Basis: NA

Matrix Spike
KQ1907873-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	0.00039 J	0.0510	0.0500	101	75-125
Cadmium	ND U	0.0226	0.0250	90	75-125
Chromium	0.00383	0.0141	0.0100	102	75-125
Copper	0.00013	0.0113	0.0125	89	75-125
Lead	0.000015 J	0.0426	0.0500	85	75-125
Nickel	0.00260	0.0256	0.0250	92	75-125
Zinc	0.0018 J	0.0237	0.0250	88	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/15/19
Date Extracted: 06/13/19

Matrix Spike Summary
Total Metals

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Analysis Method: 7470A
Prep Method: Method

Units: ug/L
Basis: NA

Matrix Spike
KQ1907872-04

<u>Analyte Name</u>	<u>Sample Result</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Mercury	0.02 J	4.58	5.00	91	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/14/19

Lab Control Sample Summary
Total Metals

Units:mg/L
Basis:NA

Lab Control Sample
KQ1907873-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	6020A	0.0508	0.0500	102	80-120
Cadmium	6020A	0.0249	0.0250	100	80-120
Chromium	6020A	0.00998	0.0100	100	80-120
Copper	6020A	0.0123	0.0125	98	80-120
Lead	6020A	0.0485	0.0500	97	80-120
Nickel	6020A	0.0252	0.0250	101	80-120
Zinc	6020A	0.0249	0.0250	100	80-120

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/15/19

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1907872-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury	7470A	5.08	5.00	102	80-120

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Prep Summary Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

Metals

Prep Method: EPA CLP ILM04.0
Analytical Method: 6020A

Extraction Lot: 338184
Extraction Date: 06/11/19 10:15

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
CTMW-14-0619	K1905207-002	6/4/19	6/5/19	10 mL	10 mL	
CTMW-15-0619	K1905207-003	6/4/19	6/5/19	10 mL	10 mL	
CTMW-14-0619	K1905207-002	6/4/19	6/5/19	10 mL	10 mL	
CTMW-15-0619	K1905207-003	6/4/19	6/5/19	10 mL	10 mL	
CTMW-25D-0619	K1905207-004	6/4/19	6/5/19	10 mL	10 mL	
CTMW-20-0619	K1905207-005	6/4/19	6/5/19	10 mL	10 mL	
CTMW-5-0619	K1905207-008	6/5/19	6/6/19	10 mL	10 mL	
CTMW-18-0619	K1905207-009	6/5/19	6/6/19	10 mL	10 mL	
CTMW-7-0619	K1905207-011	6/5/19	6/6/19	10 mL	10 mL	
CTMW-9-7-0619	K1905207-012	6/5/19	6/6/19	10 mL	10 mL	
CTMW-8-0619	K1905207-013	6/5/19	6/6/19	10 mL	10 mL	
CTMW-9-0619	K1905207-014	6/5/19	6/6/19	10 mL	10 mL	
CTMW-17-0619	K1905207-015	6/5/19	6/6/19	10 mL	10 mL	
CTMW-17D-0619	K1905207-016	6/5/19	6/6/19	10 mL	10 mL	
Field Blank#1-0619	K1905207-017	6/5/19	6/6/19	10 mL	10 mL	
CTMW-12-0619	K1905207-018	6/5/19	6/6/19	10 mL	10 mL	
CTMW-24D-0619	K1905207-019	6/5/19	6/6/19	10 mL	10 mL	
CTMW-24-0619	K1905207-020	6/5/19	6/6/19	10 mL	10 mL	
Method Blank	KQ1907873-01MB	NA	NA	10 mL	10 mL	
Lab Control Sample	KQ1907873-02LCS	NA	NA	10 mL	10.3 mL	
Duplicate	KQ1907873-03DUP	6/5/19	6/6/19	10 mL	10 mL	
Matrix Spike	KQ1907873-04MS	6/5/19	6/6/19	10 mL	10.3 mL	

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Prep Summary Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

Metals

Prep Method: Method
Analytical Method: 7470A

Extraction Lot: 338182
Extraction Date: 06/13/19 14:00

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
CTMW-14-0619	K1905207-002	6/4/19	6/5/19	10 mL	10 mL	
CTMW-15-0619	K1905207-003	6/4/19	6/5/19	10 mL	10 mL	
CTMW-5-0619	K1905207-008	6/5/19	6/6/19	10 mL	10 mL	
CTMW-18-0619	K1905207-009	6/5/19	6/6/19	10 mL	10 mL	
CTMW-7-0619	K1905207-011	6/5/19	6/6/19	10 mL	10 mL	
CTMW-9-7-0619	K1905207-012	6/5/19	6/6/19	10 mL	10 mL	
CTMW-8-0619	K1905207-013	6/5/19	6/6/19	10 mL	10 mL	
CTMW-9-0619	K1905207-014	6/5/19	6/6/19	10 mL	10 mL	
CTMW-17-0619	K1905207-015	6/5/19	6/6/19	10 mL	10 mL	
CTMW-17D-0619	K1905207-016	6/5/19	6/6/19	10 mL	10 mL	
Field Blank#1-0619	K1905207-017	6/5/19	6/6/19	10 mL	10 mL	
CTMW-12-0619	K1905207-018	6/5/19	6/6/19	10 mL	10 mL	
CTMW-24D-0619	K1905207-019	6/5/19	6/6/19	10 mL	10 mL	
CTMW-24-0619	K1905207-020	6/5/19	6/6/19	10 mL	10 mL	
Method Blank	KQ1907872-01MB	NA	NA	10 mL	10 mL	
Lab Control Sample	KQ1907872-02LCS	NA	NA	10 mL	10 mL	
Duplicate	KQ1907872-03DUP	6/5/19	6/6/19	10 mL	10 mL	
Matrix Spike	KQ1907872-04MS	6/5/19	6/6/19	10 mL	10 mL	

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
ICV 06/14/19 12:07	Arsenic	6020A	639433	25.3	25.0	101	90-110
	Cadmium	6020A	639433	12.7	12.5	101	90-110
	Chromium	6020A	639433	10.1	10.0	101	90-110
	Copper	6020A	639433	12.3	12.5	98	90-110
	Lead	6020A	639433	24.9	25.0	99	90-110
	Nickel	6020A	639433	25.0	25.0	100	90-110
	Zinc	6020A	639433	25.0	25.0	100	90-110
CCV 06/14/19 12:09	Arsenic	6020A	639433	25.4	25.0	102	90-110
	Cadmium	6020A	639433	25.3	25.0	101	90-110
	Chromium	6020A	639433	25.0	25.0	100	90-110
	Copper	6020A	639433	24.6	25.0	98	90-110
	Lead	6020A	639433	24.9	25.0	100	90-110
	Nickel	6020A	639433	25.0	25.0	100	90-110
	Zinc	6020A	639433	24.8	25.0	99	90-110
CCV 06/14/19 12:51	Arsenic	6020A	639433	25.7	25.0	103	90-110
	Cadmium	6020A	639433	25.0	25.0	100	90-110
	Chromium	6020A	639433	25.7	25.0	103	90-110
	Copper	6020A	639433	25.3	25.0	101	90-110
	Lead	6020A	639433	24.7	25.0	99	90-110
	Nickel	6020A	639433	25.6	25.0	102	90-110
	Zinc	6020A	639433	25.5	25.0	102	90-110
CCV 06/14/19 13:40	Arsenic	6020A	639433	25.1	25.0	101	90-110
	Cadmium	6020A	639433	24.8	25.0	99	90-110
	Chromium	6020A	639433	25.0	25.0	100	90-110
	Copper	6020A	639433	24.7	25.0	99	90-110
	Lead	6020A	639433	24.4	25.0	98	90-110
	Nickel	6020A	639433	24.9	25.0	100	90-110
	Zinc	6020A	639433	24.9	25.0	99	90-110
CCV 06/14/19 14:25	Arsenic	6020A	639433	24.3	25.0	97	90-110
	Cadmium	6020A	639433	24.1	25.0	96	90-110
	Chromium	6020A	639433	24.0	25.0	96	90-110
	Copper	6020A	639433	23.8	25.0	95	90-110

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 06/14/19 14:25	Lead	6020A	639433	23.5	25.0	94	90-110
	Nickel	6020A	639433	23.7	25.0	95	90-110
	Zinc	6020A	639433	23.9	25.0	96	90-110
ICV 06/15/19 08:35	Mercury	7470A	639520	5.29	5.00	106	90-110
CCV 06/15/19 08:40	Mercury	7470A	639520	5.04	5.00	101	90-110
CCV 06/15/19 08:59	Mercury	7470A	639520	5.06	5.00	101	90-110
CCV 06/15/19 09:19	Mercury	7470A	639520	5.05	5.00	101	90-110
CCV 06/15/19 09:38	Mercury	7470A	639520	5.06	5.00	101	90-110
CCV 06/15/19 09:57	Mercury	7470A	639520	5.09	5.00	102	90-110
CCV 06/15/19 10:18	Mercury	7470A	639520	5.08	5.00	102	90-110
CCV 06/15/19 10:38	Mercury	7470A	639520	5.07	5.00	101	90-110
CCV 06/15/19 10:57	Mercury	7470A	639520	5.03	5.00	101	90-110
CCV 06/15/19 11:17	Mercury	7470A	639520	5.06	5.00	101	90-110
CCV 06/15/19 11:36	Mercury	7470A	639520	5.05	5.00	101	90-110
CCV 06/15/19 11:56	Mercury	7470A	639520	5.04	5.00	101	90-110
ICV 06/18/19 15:14	Arsenic	6020A	640070	25.5	25.0	102	90-110
	Cadmium	6020A	640070	12.8	12.5	102	90-110
	Chromium	6020A	640070	10.2	10.0	102	90-110
	Copper	6020A	640070	12.8	12.5	102	90-110
	Lead	6020A	640070	25.6	25.0	102	90-110
	Nickel	6020A	640070	25.5	25.0	102	90-110
	Zinc	6020A	640070	26.1	25.0	104	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 06/18/19 15:16	Arsenic	6020A	640070	25.1	25.0	100	90-110
	Cadmium	6020A	640070	25.4	25.0	101	90-110
	Chromium	6020A	640070	25.0	25.0	100	90-110
	Copper	6020A	640070	25.3	25.0	101	90-110
	Lead	6020A	640070	25.3	25.0	101	90-110
	Nickel	6020A	640070	25.3	25.0	101	90-110
	Zinc	6020A	640070	25.4	25.0	102	90-110
CCV 06/18/19 16:10	Arsenic	6020A	640070	24.8	25.0	99	90-110
	Cadmium	6020A	640070	25.3	25.0	101	90-110
	Chromium	6020A	640070	24.7	25.0	99	90-110
	Copper	6020A	640070	24.6	25.0	98	90-110
	Lead	6020A	640070	24.9	25.0	100	90-110
	Nickel	6020A	640070	25.1	25.0	100	90-110
	Zinc	6020A	640070	24.9	25.0	100	90-110
CCV 06/18/19 16:56	Arsenic	6020A	640070	25.3	25.0	101	90-110
	Cadmium	6020A	640070	24.9	25.0	99	90-110
	Chromium	6020A	640070	25.2	25.0	101	90-110
	Copper	6020A	640070	25.1	25.0	100	90-110
	Lead	6020A	640070	24.8	25.0	99	90-110
	Nickel	6020A	640070	25.6	25.0	102	90-110
	Zinc	6020A	640070	25.7	25.0	103	90-110
CCV 06/18/19 17:32	Arsenic	6020A	640070	26.6	25.0	107	90-110
	Cadmium	6020A	640070	25.7	25.0	103	90-110
	Chromium	6020A	640070	26.8	25.0	107	90-110
	Copper	6020A	640070	26.3	25.0	105	90-110
	Lead	6020A	640070	25.5	25.0	102	90-110
	Nickel	6020A	640070	26.3	25.0	105	90-110
	Zinc	6020A	640070	26.2	25.0	105	90-110
CCV 06/18/19 17:49	Arsenic	6020A	640070	25.5	25.0	102	90-110
	Cadmium	6020A	640070	24.6	25.0	99	90-110
	Chromium	6020A	640070	24.9	25.0	100	90-110
	Copper	6020A	640070	24.9	25.0	100	90-110

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCV 06/18/19 17:49	Lead	6020A	640070	23.8	25.0	95	90-110
	Nickel	6020A	640070	24.7	25.0	99	90-110
	Zinc	6020A	640070	25.0	25.0	100	90-110

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
ICB 06/14/19 12:12	Arsenic	6020A	639433	0.09	U
	Cadmium	6020A	639433	0.008	U
	Chromium	6020A	639433	0.03	U
	Copper	6020A	639433	0.05	U
	Lead	6020A	639433	0.006	U
	Nickel	6020A	639433	0.04	U
	Zinc	6020A	639433	0.5	U
CCB 06/14/19 12:14	Arsenic	6020A	639433	0.09	U
	Cadmium	6020A	639433	0.008	U
	Chromium	6020A	639433	0.03	U
	Copper	6020A	639433	0.05	U
	Lead	6020A	639433	0.006	U
	Nickel	6020A	639433	0.04	U
	Zinc	6020A	639433	0.5	U
CCB 06/14/19 12:53	Arsenic	6020A	639433	0.09	U
	Cadmium	6020A	639433	0.008	U
	Chromium	6020A	639433	0.03	U
	Copper	6020A	639433	0.05	U
	Lead	6020A	639433	0.006	U
	Nickel	6020A	639433	0.04	U
	Zinc	6020A	639433	0.5	U
CCB 06/14/19 13:42	Arsenic	6020A	639433	0.09	U
	Cadmium	6020A	639433	0.008	U
	Chromium	6020A	639433	0.03	U
	Copper	6020A	639433	0.05	U
	Lead	6020A	639433	0.006	U
	Nickel	6020A	639433	0.04	U
	Zinc	6020A	639433	0.5	U
CCB 06/14/19 14:28	Arsenic	6020A	639433	0.09	U
	Cadmium	6020A	639433	0.008	U
	Chromium	6020A	639433	0.03	U
	Copper	6020A	639433	0.05	U

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
CCB	06/14/19 14:28				
	Lead	6020A	639433	0.006	U
	Nickel	6020A	639433	0.04	U
	Zinc	6020A	639433	0.5	U
ICB	06/15/19 08:37				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 08:42				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 09:01				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 09:20				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 09:40				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 09:59				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 10:20				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 10:39				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 10:59				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 11:18				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 11:38				
	Mercury	7470A	639520	0.02	U
CCB	06/15/19 11:57				
	Mercury	7470A	639520	0.02	U
ICB	06/18/19 15:19				
	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U
	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
CCB 06/18/19 15:22	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U
	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U
CCB 06/18/19 16:12	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U
	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U
CCB 06/18/19 16:58	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U
	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U
CCB 06/18/19 17:44	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U
	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U
CCB 06/18/19 17:52	Arsenic	6020A	640070	0.09	U
	Cadmium	6020A	640070	0.008	U
	Chromium	6020A	640070	0.03	U
	Copper	6020A	640070	0.05	U

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	C
CCB 06/18/19 17:52	Lead	6020A	640070	0.006	U
	Nickel	6020A	640070	0.04	U
	Zinc	6020A	640070	0.5	U

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLICV								
	Arsenic	6020A	639433	0.49	0.5	99	70-130	06/14/19 12:17
	Cadmium	6020A	639433	0.023	0.02	115	70-130	06/14/19 12:17
	Chromium	6020A	639433	0.22	0.2	111	70-130	06/14/19 12:17
	Copper	6020A	639433	0.11	0.1	114	70-130	06/14/19 12:17
	Lead	6020A	639433	0.022	0.02	112	70-130	06/14/19 12:17
	Nickel	6020A	639433	0.22	0.2	109	70-130	06/14/19 12:17
	Zinc	6020A	639433	2.1	2.0	107	70-130	06/14/19 12:17
LLCCV								
	Arsenic	6020A	639433	0.51	0.5	103	70-130	06/14/19 13:49
	Cadmium	6020A	639433	0.018	0.02	90	70-130	06/14/19 13:49
	Chromium	6020A	639433	0.21	0.2	103	70-130	06/14/19 13:49
	Copper	6020A	639433	0.12	0.1	118	70-130	06/14/19 13:49
	Lead	6020A	639433	0.022	0.02	108	70-130	06/14/19 13:49
	Nickel	6020A	639433	0.20	0.2	100	70-130	06/14/19 13:49
	Zinc	6020A	639433	2.2	2.0	108	70-130	06/14/19 13:49
LLCCV								
	Arsenic	6020A	639433	0.48	0.5	95	70-130	06/14/19 14:35
	Cadmium	6020A	639433	0.019	0.02	93	70-130	06/14/19 14:35
	Chromium	6020A	639433	0.21	0.2	105	70-130	06/14/19 14:35
	Copper	6020A	639433	0.091	0.1	91	70-130	06/14/19 14:35
	Lead	6020A	639433	0.021	0.02	104	70-130	06/14/19 14:35
	Nickel	6020A	639433	0.21	0.2	106	70-130	06/14/19 14:35
	Zinc	6020A	639433	1.9	2.0	97	70-130	06/14/19 14:35
LLICV								
	Mercury	7470A	639520	0.20	0.2	101	50-150	06/15/19 08:38
LLICV								
	Arsenic	6020A	640070	0.48	0.5	95	70-130	06/18/19 15:27
	Cadmium	6020A	640070	0.019	0.02	96	70-130	06/18/19 15:27
	Chromium	6020A	640070	0.23	0.2	115	70-130	06/18/19 15:27
	Copper	6020A	640070	0.10	0.1	100	70-130	06/18/19 15:27
	Lead	6020A	640070	0.020	0.02	101	70-130	06/18/19 15:27
	Nickel	6020A	640070	0.23	0.2	115	70-130	06/18/19 15:27
	Zinc	6020A	640070	2.0	2.0	102	70-130	06/18/19 15:27
LLCCV								
	Arsenic	6020A	640070	0.51	0.5	102	70-130	06/18/19 16:15
	Cadmium	6020A	640070	0.020	0.02	101	70-130	06/18/19 16:15

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLCCV								
	Chromium	6020A	640070	0.20	0.2	100	70-130	06/18/19 16:15
	Copper	6020A	640070	0.11	0.1	114	70-130	06/18/19 16:15
	Lead	6020A	640070	0.021	0.02	105	70-130	06/18/19 16:15
	Nickel	6020A	640070	0.21	0.2	106	70-130	06/18/19 16:15
	Zinc	6020A	640070	2.1	2.0	105	70-130	06/18/19 16:15
LLCCV								
	Arsenic	6020A	640070	0.49	0.5	98	70-130	06/18/19 17:55
	Cadmium	6020A	640070	0.022	0.02	108	70-130	06/18/19 17:55
	Chromium	6020A	640070	0.21	0.2	105	70-130	06/18/19 17:55
	Copper	6020A	640070	0.13	0.1	127	70-130	06/18/19 17:55
	Lead	6020A	640070	0.022	0.02	108	70-130	06/18/19 17:55
	Nickel	6020A	640070	0.19	0.2	97	70-130	06/18/19 17:55
	Zinc	6020A	640070	2.1	2.0	107	70-130	06/18/19 17:55

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSA

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Arsenic	6020A	639433	0.25	-	-	-	06/14/19 12:19
Cadmium	6020A	639433	0.022	-	-	-	06/14/19 12:19
Chromium	6020A	639433	1.26	-	-	-	06/14/19 12:19
Copper	6020A	639433	0.83	-	-	-	06/14/19 12:19
Lead	6020A	639433	0.154	-	-	-	06/14/19 12:19
Nickel	6020A	639433	1.61	-	-	-	06/14/19 12:19
Zinc	6020A	639433	0.7	-	-	-	06/14/19 12:19

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSAB

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Arsenic	6020A	639433	25.9	25.0	104	80-120	06/14/19 12:21
Cadmium	6020A	639433	24.4	25.0	98	80-120	06/14/19 12:21
Chromium	6020A	639433	50.6	50.0	101	80-120	06/14/19 12:21
Copper	6020A	639433	47.4	50.0	95	80-120	06/14/19 12:21
Lead	6020A	639433	0.145	-	-	-	06/14/19 12:21
Nickel	6020A	639433	50.0	50.0	100	80-120	06/14/19 12:21
Zinc	6020A	639433	23.8	25.0	95	80-120	06/14/19 12:21

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSA

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Arsenic	6020A	640070	0.21	-	-	-	06/18/19 15:37
Cadmium	6020A	640070	0.022	-	-	-	06/18/19 15:37
Chromium	6020A	640070	1.19	-	-	-	06/18/19 15:37
Copper	6020A	640070	0.83	-	-	-	06/18/19 15:37
Lead	6020A	640070	0.150	-	-	-	06/18/19 15:37
Nickel	6020A	640070	1.89	-	-	-	06/18/19 15:37
Zinc	6020A	640070	1.4	-	-	-	06/18/19 15:37

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSAB

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Arsenic	6020A	640070	24.9	25.0	100	80-120	06/18/19 15:39
Cadmium	6020A	640070	24.4	25.0	98	80-120	06/18/19 15:39
Chromium	6020A	640070	49.9	50.0	100	80-120	06/18/19 15:39
Copper	6020A	640070	46.9	50.0	94	80-120	06/18/19 15:39
Lead	6020A	640070	0.149	-	-	-	06/18/19 15:39
Nickel	6020A	640070	49.2	50.0	98	80-120	06/18/19 15:39
Zinc	6020A	640070	24.9	25.0	100	80-120	06/18/19 15:39

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

POST SPIKE SAMPLE RECOVERY

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Initial Sample Result	Post Spike Result	True Value	% Rec	% Rec. Limits	Analysis Date
K1905207-011A	Arsenic	6020A	639433	0.09 U	55.3	50.0	110	80-120	06/14/19 13:11
	Cadmium	6020A	639433	0.008 U	50.3	50.0	101	80-120	06/14/19 13:11
	Chromium	6020A	639433	0.03 U	58.1	50.0	109	80-120	06/14/19 13:11
	Copper	6020A	639433	0.05 U	48.4	50.0	97	80-120	06/14/19 13:11
	Lead	6020A	639433	0.006 U	46.9	50.0	94	80-120	06/14/19 13:11
	Nickel	6020A	639433	0.04 U	53.0	50.0	101	80-120	06/14/19 13:11
	Zinc	6020A	639433	0.5 U	49.3	50.0	95	80-120	06/14/19 13:11
K1905207-011A	Mercury	7470A	639520	0.02 J	4.29	5.00	85	80-120	06/15/19 11:33

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP SERIAL DILUTIONS

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Initial Sample Result	Serial Dillution Result	% Diff	% Diff. Limit	Analysis Date
K1905207-011SDL	Arsenic	6020A	639433	0.4 J	0.4 U	10	10	06/14/19 13:08
	Cadmium	6020A	639433	0.008 U	0.003 U	19	10	06/14/19 13:08
	Chromium	6020A	639433	3.8	3.9	2	10	06/14/19 13:08
	Copper	6020A	639433	0.13	0.17 U	29	10	06/14/19 13:08
	Lead	6020A	639433	0.01 J	0.03 U	85	10	06/14/19 13:08
	Nickel	6020A	639433	2.6	2.8	8	10	06/14/19 13:08
	Zinc	6020A	639433	2 J	2 U	9	10	06/14/19 13:08

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Detection Limits

Instrument: K-CVAA-02

Matrix: Water

Analyte	Wavelength (nm)	Units	MRL	MDL	Method
Mercury	253	ug/L	0.2	0.02	7470A

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Detection Limits

Instrument: K-ICP-MS-05

Matrix: Water

Analyte	Mass	Units	MRL	MDL	Method
Arsenic	75	ug/L	0.5	0.09	6020A
Cadmium	111	ug/L	0.02	0.008	6020A
Chromium	52	ug/L	0.2	0.03	6020A
Copper	65	ug/L	0.1	0.05	6020A
Lead	208	ug/L	0.02	0.006	6020A
Nickel	60	ug/L	0.2	0.04	6020A
Zinc	66	ug/L	2	0.5	6020A

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP Linear Range (Quarterly)

Instrument: K-ICP-MS-05

Analyte	Concentration (ug/L)	Method
Arsenic 75	3000	6020A
Cadmium 111	3000	6020A
Chromium 52	3000	6020A
Copper 65	3000	6020A
Lead 208	3000	6020A
Nickel 60	3000	6020A
Zinc 66	3000	6020A

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 639433

Sample	Dilution Factor	Date/Time	A	C	C	C	P	N	Z
			s	d	r	u	b	i	n
ZZZZZZ	1	06/14/19 12:02							
ZZZZZZ	1	06/14/19 12:04							
ICV	1	06/14/19 12:07	X	X	X	X	X	X	X
CCV	1	06/14/19 12:09	X	X	X	X	X	X	X
ICB	1	06/14/19 12:12	X	X	X	X	X	X	X
CCB	1	06/14/19 12:14	X	X	X	X	X	X	X
LLICVW	1	06/14/19 12:17	X	X	X	X	X	X	X
ICSA	1	06/14/19 12:19	X	X	X	X	X	X	X
ICSAB	1	06/14/19 12:21	X	X	X	X	X	X	X
ZZZZZZ	1	06/14/19 12:24							
ZZZZZZ	1	06/14/19 12:26							
ZZZZZZ	1	06/14/19 12:29							
ZZZZZZ	1	06/14/19 12:31							
ZZZZZZ	1	06/14/19 12:34							
ZZZZZZ	1	06/14/19 12:36							
KQ1907873-01MB	1	06/14/19 12:39	X	X	X	X	X	X	X
KQ1907873-02LCS	1	06/14/19 12:41	X	X	X	X	X	X	X
K1905207-002	1	06/14/19 12:44	X	X	X	X	X	X	X
K1905207-003	1	06/14/19 12:46	X	X	X	X	X	X	X
K1905207-004	1	06/14/19 12:48	X	X	X	X	X	X	X
CCV	1	06/14/19 12:51	X	X	X	X	X	X	X
CCB	1	06/14/19 12:53	X	X	X	X	X	X	X
K1905207-005	1	06/14/19 12:56	X	X	X	X	X	X	X
K1905207-008	1	06/14/19 12:58	X	X	X	X	X	X	X
K1905207-009	1	06/14/19 13:01	X	X	X	X	X	X	X
K1905207-011	1	06/14/19 13:03	X	X	X	X	X	X	X
K1905207-011DUP	1	06/14/19 13:06	X	X	X	X	X	X	X
K1905207-011SDL	5	06/14/19 13:08	X	X	X	X	X	X	X
K1905207-011PS	1	06/14/19 13:11	X	X	X	X	X	X	X
K1905207-011MS	1	06/14/19 13:13	X	X	X	X	X	X	X
K1905207-012	1	06/14/19 13:15	X	X	X	X	X	X	X
ZZZZZZ	1	06/14/19 13:18							
ZZZZZZ	1	06/14/19 13:20							
CCV	1	06/14/19 13:40	X	X	X	X	X	X	X
CCB	1	06/14/19 13:42	X	X	X	X	X	X	X
LLCCVW	1	06/14/19 13:49	X	X	X	X	X	X	X
K1905207-014	1	06/14/19 13:51	X	X	X	X	X	X	X

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 639433

Sample	Dilution Factor	Date/Time	A	C	C	C	P	N	Z
			s	d	r	u	b	i	n
ZZZZZZ	1	06/14/19 13:54							
K1905207-015	1	06/14/19 13:56	X	X	X	X	X	X	X
K1905207-016	1	06/14/19 14:01	X	X	X	X	X	X	X
K1905207-017	1	06/14/19 14:04	X	X	X	X	X	X	X
K1905207-018	1	06/14/19 14:06	X	X	X	X	X	X	X
K1905207-019	1	06/14/19 14:09	X	X	X	X	X	X	X
K1905207-020	1	06/14/19 14:11	X	X	X	X	X	X	X
K1905207-002	1	06/14/19 14:14	X	X	X	X	X	X	X
K1905207-003	1	06/14/19 14:16	X	X	X	X	X	X	X
CCV	1	06/14/19 14:25	X	X	X	X	X	X	X
CCB	1	06/14/19 14:28	X	X	X	X	X	X	X
ZZZZZZ	1	06/14/19 14:30							
LLCCVW	1	06/14/19 14:35	X	X	X	X	X	X	X
ZZZZZZ	1	06/14/19 14:38							
ZZZZZZ	1	06/14/19 14:40							
ZZZZZZ	1	06/14/19 14:43							
ZZZZZZ	1	06/14/19 14:45							
ZZZZZZ	5	06/14/19 14:48							
ZZZZZZ	1	06/14/19 14:50							
ZZZZZZ	1	06/14/19 14:53							
ZZZZZZ	1	06/14/19 14:55							
ZZZZZZ	1	06/14/19 14:58							
ZZZZZZ	1	06/14/19 15:00							
ZZZZZZ	1	06/14/19 15:02							
ZZZZZZ	1	06/14/19 15:23							
ZZZZZZ	1	06/14/19 15:25							
ZZZZZZ	1	06/14/19 15:28							
ZZZZZZ	1	06/14/19 15:30							
ZZZZZZ	1	06/14/19 15:33							
ZZZZZZ	1	06/14/19 15:35							
ZZZZZZ	1	06/14/19 15:38							
ZZZZZZ	1	06/14/19 15:40							
ZZZZZZ	1	06/14/19 15:43							
ZZZZZZ	1	06/14/19 15:51							
ZZZZZZ	1	06/14/19 15:53							
ZZZZZZ	1	06/14/19 15:56							

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 639520

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	06/15/19 08:25	
ZZZZZZ	1	06/15/19 08:27	
ZZZZZZ	1	06/15/19 08:29	
ZZZZZZ	1	06/15/19 08:30	
ZZZZZZ	1	06/15/19 08:32	
ZZZZZZ	1	06/15/19 08:33	
ICV1	1	06/15/19 08:35	X
ICB1	1	06/15/19 08:37	X
LLICV1	1	06/15/19 08:38	X
CCV1	1	06/15/19 08:40	X
CCB1	1	06/15/19 08:42	X
ZZZZZZ	1	06/15/19 08:43	
ZZZZZZ	1	06/15/19 08:45	
ZZZZZZ	1	06/15/19 08:46	
ZZZZZZ	1	06/15/19 08:48	
ZZZZZZ	1	06/15/19 08:50	
ZZZZZZ	1	06/15/19 08:51	
ZZZZZZ	1	06/15/19 08:53	
ZZZZZZ	1	06/15/19 08:54	
ZZZZZZ	1	06/15/19 08:56	
ZZZZZZ	1	06/15/19 08:58	
CCV2	1	06/15/19 08:59	X
CCB2	1	06/15/19 09:01	X
ZZZZZZ	1	06/15/19 09:03	
ZZZZZZ	1	06/15/19 09:04	
ZZZZZZ	1	06/15/19 09:06	
ZZZZZZ	1	06/15/19 09:07	
ZZZZZZ	1	06/15/19 09:09	
ZZZZZZ	1	06/15/19 09:11	
ZZZZZZ	1	06/15/19 09:12	
ZZZZZZ	1	06/15/19 09:14	
ZZZZZZ	1	06/15/19 09:15	
ZZZZZZ	1	06/15/19 09:17	
CCV3	1	06/15/19 09:19	X
CCB3	1	06/15/19 09:20	X
ZZZZZZ	1	06/15/19 09:22	
ZZZZZZ	1	06/15/19 09:24	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 639520

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	06/15/19 09:25	
ZZZZZZ	1	06/15/19 09:27	
ZZZZZZ	1	06/15/19 09:28	
ZZZZZZ	1	06/15/19 09:30	
ZZZZZZ	1	06/15/19 09:32	
ZZZZZZ	1	06/15/19 09:33	
ZZZZZZ	1	06/15/19 09:35	
ZZZZZZ	1	06/15/19 09:36	
CCV4	1	06/15/19 09:38	X
CCB4	1	06/15/19 09:40	X
ZZZZZZ	1	06/15/19 09:41	
ZZZZZZ	1	06/15/19 09:43	
ZZZZZZ	1	06/15/19 09:45	
ZZZZZZ	1	06/15/19 09:46	
ZZZZZZ	1	06/15/19 09:48	
ZZZZZZ	1	06/15/19 09:49	
ZZZZZZ	1	06/15/19 09:51	
ZZZZZZ	1	06/15/19 09:53	
ZZZZZZ	1	06/15/19 09:54	
ZZZZZZ	1	06/15/19 09:56	
CCV5	1	06/15/19 09:57	X
CCB5	1	06/15/19 09:59	X
ZZZZZZ	1	06/15/19 10:01	
ZZZZZZ	1	06/15/19 10:04	
ZZZZZZ	1	06/15/19 10:05	
ZZZZZZ	1	06/15/19 10:07	
ZZZZZZ	1	06/15/19 10:09	
ZZZZZZ	1	06/15/19 10:10	
ZZZZZZ	1	06/15/19 10:12	
ZZZZZZ	1	06/15/19 10:14	
ZZZZZZ	1	06/15/19 10:15	
ZZZZZZ	1	06/15/19 10:17	
CCV6	1	06/15/19 10:18	X
CCB6	1	06/15/19 10:20	X
ZZZZZZ	1	06/15/19 10:22	
ZZZZZZ	1	06/15/19 10:23	
ZZZZZZ	1	06/15/19 10:25	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 639520

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	06/15/19 10:26	
ZZZZZZ	1	06/15/19 10:28	
ZZZZZZ	1	06/15/19 10:30	
ZZZZZZ	1	06/15/19 10:31	
ZZZZZZ	1	06/15/19 10:33	
ZZZZZZ	1	06/15/19 10:35	
ZZZZZZ	1	06/15/19 10:36	
CCV7	1	06/15/19 10:38	X
CCB7	1	06/15/19 10:39	X
ZZZZZZ	1	06/15/19 10:41	
ZZZZZZ	1	06/15/19 10:43	
ZZZZZZ	1	06/15/19 10:44	
ZZZZZZ	1	06/15/19 10:46	
ZZZZZZ	1	06/15/19 10:47	
ZZZZZZ	1	06/15/19 10:49	
ZZZZZZ	1	06/15/19 10:51	
ZZZZZZ	1	06/15/19 10:52	
ZZZZZZ	1	06/15/19 10:54	
ZZZZZZ	1	06/15/19 10:56	
CCV8	1	06/15/19 10:57	X
CCB8	1	06/15/19 10:59	X
ZZZZZZ	1	06/15/19 11:00	
ZZZZZZ	1	06/15/19 11:02	
ZZZZZZ	1	06/15/19 11:04	
ZZZZZZ	1	06/15/19 11:05	
ZZZZZZ	1	06/15/19 11:07	
ZZZZZZ	1	06/15/19 11:09	
ZZZZZZ	1	06/15/19 11:10	
ZZZZZZ	1	06/15/19 11:12	
ZZZZZZ	1	06/15/19 11:13	
ZZZZZZ	1	06/15/19 11:15	
CCV9	1	06/15/19 11:17	X
CCB9	1	06/15/19 11:18	X
ZZZZZZ	1	06/15/19 11:20	
KQ1907872-01MB	1	06/15/19 11:22	X
KQ1907872-02LCS	1	06/15/19 11:23	X
K1905207-002	1	06/15/19 11:25	X

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 639520

Sample	Dilution Factor	Date/Time	H g
K1905207-003	1	06/15/19 11:26	X
K1905207-008	1	06/15/19 11:28	X
K1905207-009	1	06/15/19 11:30	X
K1905207-011	1	06/15/19 11:31	X
K1905207-011PS	1	06/15/19 11:33	X
K1905207-011DUP	1	06/15/19 11:35	X
CCV10	1	06/15/19 11:36	X
CCB10	1	06/15/19 11:38	X
K1905207-011MS	1	06/15/19 11:39	X
K1905207-012	1	06/15/19 11:41	X
K1905207-013	1	06/15/19 11:43	X
K1905207-014	1	06/15/19 11:44	X
K1905207-015	1	06/15/19 11:46	X
K1905207-016	1	06/15/19 11:48	X
K1905207-017	1	06/15/19 11:49	X
K1905207-018	1	06/15/19 11:51	X
K1905207-019	1	06/15/19 11:52	X
K1905207-020	1	06/15/19 11:54	X
CCV11	1	06/15/19 11:56	X
CCB11	1	06/15/19 11:57	X
ZZZZZZ	1	06/15/19 11:59	
ZZZZZZ	1	06/15/19 12:01	
ZZZZZZ	1	06/15/19 12:02	
ZZZZZZ	5	06/15/19 12:04	
ZZZZZZ	5	06/15/19 12:05	
ZZZZZZ	1	06/15/19 12:07	
ZZZZZZ	1	06/15/19 12:09	
ZZZZZZ	1	06/15/19 12:10	

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 640070

Sample	Dilution Factor	Date/Time	A	C	C	C	P	N	Z
			s	d	r	u	b	i	n
ZZZZZZ	1	06/18/19 15:08							
ZZZZZZ	1	06/18/19 15:11							
ICV	1	06/18/19 15:14	X	X	X	X	X	X	X
CCV	1	06/18/19 15:16	X	X	X	X	X	X	X
ICB	1	06/18/19 15:19	X	X	X	X	X	X	X
CCB	1	06/18/19 15:22	X	X	X	X	X	X	X
ZZZZZZ	1	06/18/19 15:24							
LLICVW	1	06/18/19 15:27	X	X	X	X	X	X	X
ICSA	1	06/18/19 15:37	X	X	X	X	X	X	X
ICSAB	1	06/18/19 15:39	X	X	X	X	X	X	X
ZZZZZZ	1	06/18/19 15:42							
ZZZZZZ	1	06/18/19 15:51							
ZZZZZZ	1	06/18/19 15:54							
ZZZZZZ	1	06/18/19 15:56							
ZZZZZZ	1	06/18/19 15:59							
ZZZZZZ	1	06/18/19 16:02							
ZZZZZZ	1	06/18/19 16:04							
ZZZZZZ	1	06/18/19 16:07							
CCV	1	06/18/19 16:10	X	X	X	X	X	X	X
CCB	1	06/18/19 16:12	X	X	X	X	X	X	X
LLCCV	1	06/18/19 16:15	X	X	X	X	X	X	X
ZZZZZZ	1	06/18/19 16:27							
K1905207-013	1	06/18/19 16:32	X	X	X	X	X	X	X
CCV	1	06/18/19 16:56	X	X	X	X	X	X	X
CCB	1	06/18/19 16:58	X	X	X	X	X	X	X
ZZZZZZ	1	06/18/19 17:05							
ZZZZZZ	1	06/18/19 17:08							
ZZZZZZ	1	06/18/19 17:10							
ZZZZZZ	1	06/18/19 17:13							
ZZZZZZ	5	06/18/19 17:16							
ZZZZZZ	1	06/18/19 17:18							
ZZZZZZ	1	06/18/19 17:21							
ZZZZZZ	1	06/18/19 17:24							
ZZZZZZ	1	06/18/19 17:26							
ZZZZZZ	1	06/18/19 17:29							
CCV	1	06/18/19 17:32	X	X	X	X	X	X	X
CCB	1	06/18/19 17:44	X	X	X	X	X	X	X

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log

Instrument ID: K-ICP-MS-05

Analytical BatchID: 640070

Sample	Dilution Factor	Date/Time	A s	C d	C r	C u	P b	N i	Z n
ZZZZZZ	1	06/18/19 17:47							
CCV	1	06/18/19 17:49	X	X	X	X	X	X	X
CCB	1	06/18/19 17:52	X	X	X	X	X	X	X
LLCCV	1	06/18/19 17:55	X	X	X	X	X	X	X
ZZZZZZ	1	06/18/19 17:59							

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 639433

Sample	Date/Time	Sc45NG	Ge72He	Ge72H2	In115He	Lu175He
ZZZZZZ	06/14/19 12:02					
ZZZZZZ	06/14/19 12:04					
ICV	06/14/19 12:07	100	100	101	98	99
CCV	06/14/19 12:09	99	100	99	97	99
ICB	06/14/19 12:12	100	100	100	99	101
CCB	06/14/19 12:14	99	98	84	100	100
LLICVW	06/14/19 12:17	100	100	101	100	101
ICSA	06/14/19 12:19	99	95	99	94	97
ICSAB	06/14/19 12:21	96	95	100	93	98
ZZZZZZ	06/14/19 12:24					
ZZZZZZ	06/14/19 12:26					
ZZZZZZ	06/14/19 12:29					
ZZZZZZ	06/14/19 12:31					
ZZZZZZ	06/14/19 12:34					
ZZZZZZ	06/14/19 12:36					
KQ1907873-01MB	06/14/19 12:39	103	101	105	103	104
KQ1907873-02LCS	06/14/19 12:41	105	103	107	101	102
K1905207-002	06/14/19 12:44	108	102	103	100	101
K1905207-003	06/14/19 12:46	103	101	105	97	101
K1905207-004	06/14/19 12:48	105	101	106	98	100
CCV	06/14/19 12:51	112	109	110	108	105
CCB	06/14/19 12:53	109	108	108	108	105
K1905207-005	06/14/19 12:56	107	102	104	99	102
K1905207-008	06/14/19 12:58	105	103	102	100	102
K1905207-009	06/14/19 13:01	106	101	106	99	101
K1905207-011	06/14/19 13:03	107	104	111	100	102
K1905207-011DUP	06/14/19 13:06	113	109	116	103	104
K1905207-011SDL	06/14/19 13:08	120	115	119	110	109
K1905207-011PS	06/14/19 13:11	117	112	115	106	107
K1905207-011MS	06/14/19 13:13	123	115	120	111	108
K1905207-012	06/14/19 13:15	124	117	121	112	113
ZZZZZZ	06/14/19 13:18					
ZZZZZZ	06/14/19 13:20					
CCV	06/14/19 13:40	111	112	117	111	111
CCB	06/14/19 13:42	111	112	115	110	111
LLCCVW	06/14/19 13:49	110	110	114	110	110
K1905207-014	06/14/19 13:51	106	105	113	100	104

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 639433

Sample	Date/Time	Sc45NG	Ge72He	Ge72H2	In115He	Lu175He
ZZZZZZ	06/14/19 13:54					
K1905207-015	06/14/19 13:56	122	119	120	115	113
K1905207-016	06/14/19 14:01	114	113	121	109	113
K1905207-017	06/14/19 14:04	123	123	128	121	119
K1905207-018	06/14/19 14:06	117	116	124	110	115
K1905207-019	06/14/19 14:09	123	118	127	112	115
K1905207-020	06/14/19 14:11	129	123	131	121	118
K1905207-002	06/14/19 14:14	127	123	129	119	119
K1905207-003	06/14/19 14:16	123	119	126	115	115
CCV	06/14/19 14:25	114	113	119	111	112
CCB	06/14/19 14:28	116	113	117	116	112
ZZZZZZ	06/14/19 14:30					
LLCCVW	06/14/19 14:35	111	112	115	110	112
ZZZZZZ	06/14/19 14:38					
ZZZZZZ	06/14/19 14:40					
ZZZZZZ	06/14/19 14:43					
ZZZZZZ	06/14/19 14:45					
ZZZZZZ	06/14/19 14:48					
ZZZZZZ	06/14/19 14:50					
ZZZZZZ	06/14/19 14:53					
ZZZZZZ	06/14/19 14:55					
ZZZZZZ	06/14/19 14:58					
ZZZZZZ	06/14/19 15:00					
ZZZZZZ	06/14/19 15:02					
ZZZZZZ	06/14/19 15:23					
ZZZZZZ	06/14/19 15:25					
ZZZZZZ	06/14/19 15:28					
ZZZZZZ	06/14/19 15:30					
ZZZZZZ	06/14/19 15:33					
ZZZZZZ	06/14/19 15:35					
ZZZZZZ	06/14/19 15:38					
ZZZZZZ	06/14/19 15:40					
ZZZZZZ	06/14/19 15:43					
ZZZZZZ	06/14/19 15:51					
ZZZZZZ	06/14/19 15:53					
ZZZZZZ	06/14/19 15:56					

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 640070

Sample	Date/Time	Sc45NG	Sc45He	Ge72He	Ge72H2	In115He	Lu175He	Th232He
ZZZZZZ	06/18/19 15:08							
ZZZZZZ	06/18/19 15:11							
ICV	06/18/19 15:14	101	102	100	100	101	99	100
CCV	06/18/19 15:16	99	101	99	100	99	99	101
ICB	06/18/19 15:19	101	101	100	103	101	101	100
CCB	06/18/19 15:22	101	101	99	103	100	100	100
ZZZZZZ	06/18/19 15:24							
LLICVW	06/18/19 15:27	100	101	99	100	101	102	101
ICSA	06/18/19 15:37	98	96	94	99	94	98	98
ICSAB	06/18/19 15:39	98	97	95	98	94	98	97
ZZZZZZ	06/18/19 15:42							
ZZZZZZ	06/18/19 15:51							
ZZZZZZ	06/18/19 15:54							
ZZZZZZ	06/18/19 15:56							
ZZZZZZ	06/18/19 15:59							
ZZZZZZ	06/18/19 16:02							
ZZZZZZ	06/18/19 16:04							
ZZZZZZ	06/18/19 16:07							
CCV	06/18/19 16:10	107	106	107	108	104	103	102
CCB	06/18/19 16:12	108	106	105	108	105	105	104
LLCCV	06/18/19 16:15	106	106	105	108	105	105	104
ZZZZZZ	06/18/19 16:27							
K1905207-013	06/18/19 16:32	112	120	110	113	111	107	100
CCV	06/18/19 16:56	106	104	102	109	104	102	104
CCB	06/18/19 16:58	106	104	102	111	104	104	102
ZZZZZZ	06/18/19 17:05							
ZZZZZZ	06/18/19 17:08							
ZZZZZZ	06/18/19 17:10							
ZZZZZZ	06/18/19 17:13							
ZZZZZZ	06/18/19 17:16							
ZZZZZZ	06/18/19 17:18							
ZZZZZZ	06/18/19 17:21							
ZZZZZZ	06/18/19 17:24							
ZZZZZZ	06/18/19 17:26							
ZZZZZZ	06/18/19 17:29							
CCV	06/18/19 17:32	109	103	101	110	104	102	100
CCB	06/18/19 17:44	107	107	105	111	109	106	105

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Instrument ID: K-ICP-MS-05

Analytical BatchID: 640070

Sample	Date/Time	Sc45NG	Sc45He	Ge72He	Ge72H2	In115He	Lu175He	Th232He
<i>ZZZZZZ</i>	06/18/19 17:47							
CCV	06/18/19 17:49	114	116	111	114	112	111	108
CCB	06/18/19 17:52	113	114	111	112	114	110	108
LLCCV	06/18/19 17:55	112	114	111	114	113	109	107
<i>ZZZZZZ</i>	06/18/19 17:59							



Gasoline Range Organics

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/19 06:51
Date Received: 06/05/19 09:55

Sample Name: Trip Blank #1-0619
Lab Code: K1905207-001

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/06/19 20:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Difluorobenzene	96	50 - 150	06/06/19 20:09	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/19 11:38
Date Received: 06/05/19 09:55

Sample Name: CTMW-20-0619
Lab Code: K1905207-005

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

<u>Analyte Name</u>	<u>Result</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/06/19 21:46	

<u>Surrogate Name</u>	<u>% Rec</u>	<u>Control Limits</u>	<u>Date Analyzed</u>	<u>Q</u>
1,4-Difluorobenzene	93	50 - 150	06/06/19 21:46	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 06:50
Date Received: 06/06/19 11:10

Sample Name: Trip Blank #2-0619
Lab Code: K1905207-006

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/10/19 20:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Difluorobenzene	94	50 - 150	06/10/19 20:47	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 09:02
Date Received: 06/06/19 11:10

Sample Name: CTMW-18-0619
Lab Code: K1905207-009

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

<u>Analyte Name</u>	<u>Result</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/10/19 21:35	

<u>Surrogate Name</u>	<u>% Rec</u>	<u>Control Limits</u>	<u>Date Analyzed</u>	<u>Q</u>
1,4-Difluorobenzene	91	50 - 150	06/10/19 21:35	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 09:02
Date Received: 06/06/19 11:10

Sample Name: CTMW-9-18-0619
Lab Code: K1905207-010

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

<u>Analyte Name</u>	<u>Result</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/10/19 22:23	

<u>Surrogate Name</u>	<u>% Rec</u>	<u>Control Limits</u>	<u>Date Analyzed</u>	<u>Q</u>
1,4-Difluorobenzene	93	50 - 150	06/10/19 22:23	

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dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KQ1907993-06

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

<u>Analyte Name</u>	<u>Result</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/06/19 19:20	

<u>Surrogate Name</u>	<u>% Rec</u>	<u>Control Limits</u>	<u>Date Analyzed</u>	<u>Q</u>
1,4-Difluorobenzene	95	50 - 150	06/06/19 19:20	

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dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KQ1908005-07

Units: ug/L
Basis: NA

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

<u>Analyte Name</u>	<u>Result</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Gasoline Range Organics-NWTPH	ND U	50.0	1	06/10/19 09:52	

<u>Surrogate Name</u>	<u>% Rec</u>	<u>Control Limits</u>	<u>Date Analyzed</u>	<u>Q</u>
1,4-Difluorobenzene	93	50 - 150	06/10/19 09:52	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

SURROGATE RECOVERY SUMMARY

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Extraction Method: None

Sample Name	Lab Code	1,4-Difluorobenzene
		50-150
Trip Blank #1-0619	K1905207-001	96
CTMW-20-0619	K1905207-005	93
Trip Blank #2-0619	K1905207-006	94
CTMW-18-0619	K1905207-009	91
CTMW-9-18-0619	K1905207-010	93
CTMW-20-0619	KQ1907993-01	93
CTMW-18-0619	KQ1908005-09	92
Method Blank	KQ1907993-06	95
Method Blank	KQ1908005-07	93
Lab Control Sample	KQ1907993-07	99
Lab Control Sample	KQ1908005-08	96

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.

Service Request: K1905207

Project: Tacoma 2Q19/376.01

Date Collected: 06/04/19

Sample Matrix: Water

Date Received: 06/05/19

Date Analyzed: 06/06/19

Replicate Sample Summary

Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: CTMW-20-0619

Units: ug/L

Lab Code: K1905207-005

Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate	Average	RPD	RPD Limit
				Sample KQ1907993-01 Result			
Gasoline Range Organics-NWTPH	NWTPH-Gx	50.0	ND U	ND U	NC	NC	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/10/19

Replicate Sample Summary

Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: CTMW-18-0619
Lab Code: K1905207-009

Units: ug/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate	Average	RPD	RPD Limit
				Sample KQ1908005-09 Result			
Gasoline Range Organics-NWTPH	NWTPH-Gx	50.0	ND U	ND U	NC	NC	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/06/19
Date Extracted: NA

Lab Control Sample Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

Units: ug/L
Basis: NA
Analysis Lot: 638678

Lab Control Sample
KQ1907993-07

<u>Analyte Name</u>	<u>Result</u>	<u>Spike Amount</u>	<u>% Rec</u>	<u>% Rec Limits</u>
Gasoline Range Organics-NWTPH	478	500	96	80-119

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/10/19
Date Extracted: NA

Lab Control Sample Summary

Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
Prep Method: None

Units: ug/L
Basis: NA
Analysis Lot: 638700

Lab Control Sample
KQ1908005-08

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Gasoline Range Organics-NWTPH	478	500	96	80-119

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/06/19 19:20
Date Extracted:

Method Blank Summary

Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: Method Blank
Lab Code: KQ1907993-06
Analysis Method: NWTPH-Gx
Prep Method: None

Instrument ID: K-GC-39
File ID: J:\GC39\DATA\060619\0606F021.D\
Analysis Lot: 638678

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1907993-07	J:\GC39\DATA\060619\0606F022.D\	06/06/19 19:45
Trip Blank #1-0619	K1905207-001	J:\GC39\DATA\060619\0606F023.D\	06/06/19 20:09
CTMW-20-0619	K1905207-005	J:\GC39\DATA\060619\0606F027.D\	06/06/19 21:46
CTMW-20-0619DUP	KQ1907993-01	J:\GC39\DATA\060619\0606F028.D\	06/06/19 22:10

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dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/10/19 09:52
Date Extracted:

Method Blank Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: Method Blank **Instrument ID:**K-GC-39
Lab Code: KQ1908005-07 **File ID:**J:\GC39\DATA\061019\0610F005.D\
Analysis Method: NWTPH-Gx **Analysis Lot:**638700
Prep Method: None

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1908005-08	J:\GC39\DATA\061019\0610F006.D\	06/10/19 10:16
Trip Blank #2-0619	K1905207-006	J:\GC39\DATA\061019\0610F032.D\	06/10/19 20:47
CTMW-18-0619	K1905207-009	J:\GC39\DATA\061019\0610F034.D\	06/10/19 21:35
CTMW-18-0619DUP	KQ1908005-09	J:\GC39\DATA\061019\0610F035.D\	06/10/19 21:59
CTMW-9-18-0619	K1905207-010	J:\GC39\DATA\061019\0610F036.D\	06/10/19 22:23

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/06/19 19:45
Date Extracted:

Lab Control Sample Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: Lab Control Sample
Lab Code: KQ1907993-07
Analysis Method: NWTPH-Gx
Prep Method: None

Instrument ID: K-GC-39
File ID: J:\GC39\DATA\060619\0606F022.D\
Analysis Lot: 638678

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1907993-06	J:\GC39\DATA\060619\0606F021.D\	06/06/19 19:20
Trip Blank #1-0619	K1905207-001	J:\GC39\DATA\060619\0606F023.D\	06/06/19 20:09
CTMW-20-0619	K1905207-005	J:\GC39\DATA\060619\0606F027.D\	06/06/19 21:46
CTMW-20-0619DUP	KQ1907993-01	J:\GC39\DATA\060619\0606F028.D\	06/06/19 22:10

ALS Group USA, Corp.
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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/10/19 10:16
Date Extracted:

Lab Control Sample Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Sample Name: Lab Control Sample **Instrument ID:** K-GC-39
Lab Code: KQ1908005-08 **File ID:** J:\GC39\DATA\061019\0610F006.D\
Analysis Method: NWTPH-Gx **Analysis Lot:** 638700
Prep Method: None

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1908005-07	J:\GC39\DATA\061019\0610F005.D\	06/10/19 09:52
Trip Blank #2-0619	K1905207-006	J:\GC39\DATA\061019\0610F032.D\	06/10/19 20:47
CTMW-18-0619	K1905207-009	J:\GC39\DATA\061019\0610F034.D\	06/10/19 21:35
CTMW-18-0619DUP	KQ1908005-09	J:\GC39\DATA\061019\0610F035.D\	06/10/19 21:59
CTMW-9-18-0619	K1905207-010	J:\GC39\DATA\061019\0610F036.D\	06/10/19 22:23

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 12/6/2018

Initial Calibration Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Calibration ID: KC1800549
Instrument ID: K-GC-39

Signal ID: DB-624

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800549-01	ICAL 50/20	J:\GC39\DATA\120618\1206F006.D	12/06/2018 10:21
02	KC1800549-02	ICAL 100/25	J:\GC39\DATA\120618\1206F007.D	12/06/2018 10:45
03	KC1800549-03	ICAL 200/50	J:\GC39\DATA\120618\1206F008.D	12/06/2018 11:09
04	KC1800549-04	ICAL 500/100	J:\GC39\DATA\120618\1206F009.D	12/06/2018 11:33
05	KC1800549-05	ICAL 1000/150	J:\GC39\DATA\120618\1206F010.D	12/06/2018 11:57
06	KC1800549-06	ICAL 5000	J:\GC39\DATA\120618\1206F011.D	12/06/2018 12:21
07	KC1800549-07	ICAL 10000	J:\GC39\DATA\120618\1206F012.D	12/06/2018 12:45

Analyte

1,4-Difluorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20.000	1.154E5	02	25.000	1.2E5	03	50.000	1.229E5	04	100.000	1.404E5
05	150.000	1.437E5									

Gasoline Range Organics-NWTPH

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	7.747E4	02	100.000	7.533E4	03	200.000	6.64E4	04	500.000	7.214E4
05	1000.000	7.354E4	06	5000.000	7.656E4	07	10000.000	7.349E4			

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 12/6/2018

Initial Calibration Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Calibration ID: KC1800549
Instrument ID: K-GC-39

Signal ID: DB-624

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,4-Difluorobenzene	SURR	Average RF	% RSD	9.9	20	1.285E5	
Gasoline Range Organics-NWTPH	TRG	Average RF	% RSD	5.0	20	7.356E4	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 12/6/2018

Initial Calibration Verification Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Calibration ID: KC1800549
Instrument ID: K-GC-39

Signal ID: DB-624

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1800549-08	ICV 500/100	J:\GC39\DATA\120618\1206F015.D	12/06/2018 13:56

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	575	7.356E4	8.457E4	14.96	±20	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,4-Difluorobenzene	100	104	1.285E5	1.334E5	3.86	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/06/19 18:07

Continuing Calibration Verification (CCV) Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
File ID: J:\GC39\DATA\060619\0606F018.D\
Signal ID: DB-624

Calibration Date: 12/6/2018
Calibration ID: KC1800549
Analysis Lot: 638678
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	467	7.356E4	6.865E4	-6.7	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Difluorobenzene	100	94.8	1.285E5	1.219E5	-5.2	NA	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/06/19 23:46

Continuing Calibration Verification (CCV) Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
File ID: J:\GC39\DATA\060619\0606F032.D\
Signal ID: DB-624

Calibration Date: 12/6/2018
Calibration ID: KC1800549
Analysis Lot: 638678
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	445	7.356E4	6.544E4	-11.0	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Difluorobenzene	100	97.2	1.285E5	1.249E5	-2.8	NA	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/19 19:58

Continuing Calibration Verification (CCV) Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
File ID: J:\GC39\DATA\061019\0610F030.D\
Signal ID: DB-624

Calibration Date: 12/6/2018
Calibration ID: KC1800549
Analysis Lot: 638700
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	482	7.356E4	7.096E4	-3.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Difluorobenzene	100	97.2	1.285E5	1.249E5	-2.8	NA	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/11/19 00:49

Continuing Calibration Verification (CCV) Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
File ID: J:\GC39\DATA\061019\0610F042.D\
Signal ID: DB-624

Calibration Date: 12/6/2018
Calibration ID: KC1800549
Analysis Lot: 638700
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	477	7.356E4	7.023E4	-4.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Difluorobenzene	100	96.6	1.285E5	1.241E5	-3.4	NA	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/19 15:07

Continuing Calibration Verification (CCV) Summary
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx
File ID: J:\GC39\DATA\061019\0610F018.D\
Signal ID: DB-624

Calibration Date: 12/6/2018
Calibration ID: KC1800549
Analysis Lot: 638700
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Gasoline Range Organics-NWTPH	500	474	7.356E4	6.976E4	-5.2	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Difluorobenzene	100	97.2	1.285E5	1.248E5	-2.8	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method: NWTPH-Gx

Analysis Lot: 638678

Instrument ID: K-GC-39

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC39\DATA\060619\0606F018.D\	Continuing Calibration Verification	KQ1907993-02	6/6/2019	18:07:00	
J:\GC39\DATA\060619\0606F019.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	18:32:00	
J:\GC39\DATA\060619\0606F021.D\	Method Blank	KQ1907993-06	6/6/2019	19:20:00	
J:\GC39\DATA\060619\0606F022.D\	Lab Control Sample	KQ1907993-07	6/6/2019	19:45:00	
J:\GC39\DATA\060619\0606F023.D\	Trip Blank #1-0619	K1905207-001	6/6/2019	20:09:00	
J:\GC39\DATA\060619\0606F024.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	20:33:00	
J:\GC39\DATA\060619\0606F025.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	20:57:00	
J:\GC39\DATA\060619\0606F026.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	21:22:00	
J:\GC39\DATA\060619\0606F027.D\	CTMW-20-0619	K1905207-005	6/6/2019	21:46:00	
J:\GC39\DATA\060619\0606F028.D\	CTMW-20-0619 DUP	KQ1907993-01	6/6/2019	22:10:00	
J:\GC39\DATA\060619\0606F029.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	22:34:00	
J:\GC39\DATA\060619\0606F030.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	22:58:00	
J:\GC39\DATA\060619\0606F031.D\	ZZZZZZZ	ZZZZZZZ	6/6/2019	23:22:00	
J:\GC39\DATA\060619\0606F032.D\	Continuing Calibration Verification	KQ1907993-03	6/6/2019	23:46:00	
J:\GC39\DATA\060619\0606F033.D\	ZZZZZZZ	ZZZZZZZ	6/7/2019	00:11:00	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request:K1905207

Analysis Run Log
Volatile Petroleum Products Method for Soil and Water for the Northwest

Analysis Method:

Analysis Lot:638700
Instrument ID:K-GC-39

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC39\DATA\061019\0610F003.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	09:04:00	
J:\GC39\DATA\061019\0610F004.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	09:28:00	
J:\GC39\DATA\061019\0610F005.D\	Method Blank	KQ1908005-07	6/10/2019	09:52:00	
J:\GC39\DATA\061019\0610F006.D\	Lab Control Sample	KQ1908005-08	6/10/2019	10:16:00	
J:\GC39\DATA\061019\0610F018.D\	Continuing Calibration Verification	KQ1908005-13	6/10/2019	15:07:00	
J:\GC39\DATA\061019\0610F019.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	15:31:00	
J:\GC39\DATA\061019\0610F030.D\	Continuing Calibration Verification	KQ1908005-02	6/10/2019	19:58:00	
J:\GC39\DATA\061019\0610F031.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	20:22:00	
J:\GC39\DATA\061019\0610F032.D\	Trip Blank #2-0619	K1905207-006	6/10/2019	20:47:00	
J:\GC39\DATA\061019\0610F033.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	21:11:00	
J:\GC39\DATA\061019\0610F034.D\	CTMW-18-0619	K1905207-009	6/10/2019	21:35:00	
J:\GC39\DATA\061019\0610F035.D\	CTMW-18-0619 DUP	KQ1908005-09	6/10/2019	21:59:00	
J:\GC39\DATA\061019\0610F036.D\	CTMW-9-18-0619	K1905207-010	6/10/2019	22:23:00	
J:\GC39\DATA\061019\0610F037.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	22:48:00	
J:\GC39\DATA\061019\0610F038.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	23:12:00	
J:\GC39\DATA\061019\0610F039.D\	ZZZZZZZ	ZZZZZZZ	6/10/2019	23:36:00	
J:\GC39\DATA\061019\0610F040.D\	ZZZZZZZ	ZZZZZZZ	6/11/2019	00:01:00	
J:\GC39\DATA\061019\0610F041.D\	ZZZZZZZ	ZZZZZZZ	6/11/2019	00:25:00	
J:\GC39\DATA\061019\0610F042.D\	Continuing Calibration Verification	KQ1908005-11	6/11/2019	00:49:00	
J:\GC39\DATA\061019\0610F043.D\	ZZZZZZZ	ZZZZZZZ	6/11/2019	01:14:00	
J:\GC39\DATA\061019\0610F046.D\	ZZZZZZZ	ZZZZZZZ	6/11/2019	02:27:00	



Diesel and Residual Range Organics— Silica Gel Treated

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

**Cover Page - Organic Analysis Data Package
 Diesel and Residual Range Organics - Silica Gel Treated**

Sample Name	Lab Code	Date Collected	Date Received
CTMW-15-0619	K1905207-003	06/04/2019	06/05/2019
CTMW-25D-0619	K1905207-004	06/04/2019	06/05/2019
CTMW-20-0619	K1905207-005	06/04/2019	06/05/2019
CTMW-14-0619	K1905207-007	06/05/2019	06/06/2019
CTMW-5-0619	K1905207-008	06/05/2019	06/06/2019
CTMW-18-0619	K1905207-009	06/05/2019	06/06/2019
CTMW-7-0619	K1905207-011	06/05/2019	06/06/2019
CTMW-9-7-0619	K1905207-012	06/05/2019	06/06/2019
CTMW-8-0619	K1905207-013	06/05/2019	06/06/2019
CTMW-9-0619	K1905207-014	06/05/2019	06/06/2019
CTMW-17-0619	K1905207-015	06/05/2019	06/06/2019
CTMW-17D-0619	K1905207-016	06/05/2019	06/06/2019
Field Blank#1-0619	K1905207-017	06/05/2019	06/06/2019
CTMW-12-0619	K1905207-018	06/05/2019	06/06/2019
CTMW-24D-0619	K1905207-019	06/05/2019	06/06/2019
CTMW-24-0619	K1905207-020	06/05/2019	06/06/2019
CTMW-7-0619MS	KWG1902676-1	06/05/2019	06/06/2019
CTMW-7-0619DMS	KWG1902676-2	06/05/2019	06/06/2019

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-15-0619 **Units:** ug/L
Lab Code: K1905207-003 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/05/19	06/19/19	KWG1902594	
Residual Range Organics (RRO)	ND	U	510	1	06/05/19	06/19/19	KWG1902594	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	117	50-150	06/19/19	Acceptable
n-Triacontane	124	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-25D-0619
Lab Code: K1905207-004
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	06/05/19	06/20/19	KWG1902594	
Residual Range Organics (RRO)	ND	U	500	1	06/05/19	06/20/19	KWG1902594	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	108	50-150	06/20/19	Acceptable
n-Triacontane	103	50-150	06/20/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-20-0619 **Units:** ug/L
Lab Code: K1905207-005 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/05/19	06/19/19	KWG1902594	
Residual Range Organics (RRO)	ND	U	510	1	06/05/19	06/19/19	KWG1902594	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	113	50-150	06/19/19	Acceptable
n-Triacontane	115	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-14-0619 **Units:** ug/L
Lab Code: K1905207-007 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	520	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	99	50-150	06/19/19	Acceptable
n-Triacontane	106	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-5-0619
Lab Code: K1905207-008
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	109	50-150	06/19/19	Acceptable
n-Triacontane	115	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-18-0619 **Units:** ug/L
Lab Code: K1905207-009 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	103	50-150	06/19/19	Acceptable
n-Triacontane	109	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	500	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	95	50-150	06/19/19	Acceptable
n-Triacontane	102	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	520	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	104	50-150	06/19/19	Acceptable
n-Triacontane	110	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-8-0619
Lab Code: K1905207-013
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	500	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	100	50-150	06/19/19	Acceptable
n-Triacontane	105	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-9-0619
Lab Code: K1905207-014
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	108	50-150	06/19/19	Acceptable
n-Triacontane	111	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-17-0619 **Units:** ug/L
Lab Code: K1905207-015 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	520	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	106	50-150	06/19/19	Acceptable
n-Triacontane	114	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-17D-0619 **Units:** ug/L
Lab Code: K1905207-016 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	112	50-150	06/19/19	Acceptable
n-Triacontane	119	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Field Blank#1-0619
Lab Code: K1905207-017
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	99	50-150	06/19/19	Acceptable
n-Triacontane	107	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-12-0619
Lab Code: K1905207-018
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	96	50-150	06/19/19	Acceptable
n-Triacontane	102	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-24D-0619
Lab Code: K1905207-019
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	98	50-150	06/19/19	Acceptable
n-Triacontane	103	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-24-0619 **Units:** ug/L
Lab Code: K1905207-020 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	260	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	510	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	109	50-150	06/19/19	Acceptable
n-Triacontane	116	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Method Blank
Lab Code: KWG1902594-3
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	06/05/19	06/19/19	KWG1902594	
Residual Range Organics (RRO)	ND	U	500	1	06/05/19	06/19/19	KWG1902594	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	06/19/19	Acceptable
n-Triacontane	112	50-150	06/19/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Method Blank **Units:** ug/L
Lab Code: KWG1902676-4 **Basis:** NA
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	06/10/19	06/19/19	KWG1902676	
Residual Range Organics (RRO)	ND	U	500	1	06/10/19	06/19/19	KWG1902676	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	103	50-150	06/19/19	Acceptable
n-Triacontane	110	50-150	06/19/19	Acceptable

Comments: _____

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

**Surrogate Recovery Summary
 Diesel and Residual Range Organics - Silica Gel Treated**

Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>
CTMW-15-0619	K1905207-003	117	124
CTMW-25D-0619	K1905207-004	108	103
CTMW-20-0619	K1905207-005	113	115
CTMW-14-0619	K1905207-007	99	106
CTMW-5-0619	K1905207-008	109	115
CTMW-18-0619	K1905207-009	103	109
CTMW-7-0619	K1905207-011	95	102
CTMW-9-7-0619	K1905207-012	104	110
CTMW-8-0619	K1905207-013	100	105
CTMW-9-0619	K1905207-014	108	111
CTMW-17-0619	K1905207-015	106	114
CTMW-17D-0619	K1905207-016	112	119
Field Blank#1-0619	K1905207-017	99	107
CTMW-12-0619	K1905207-018	96	102
CTMW-24D-0619	K1905207-019	98	103
CTMW-24-0619	K1905207-020	109	116
Method Blank	KWG1902594-3	107	112
Method Blank	KWG1902676-4	103	110
CTMW-7-0619MS	KWG1902676-1	112	115
CTMW-7-0619DMS	KWG1902676-2	117	120
Lab Control Sample	KWG1902594-1	105	106
Duplicate Lab Control Sample	KWG1902594-2	111	112
Lab Control Sample	KWG1902676-3	67	73

Surrogate Recovery Control Limits (%)

Sur1 = o-Terphenyl	50-150
Sur2 = n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
 Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/19/2019

Matrix Spike/Duplicate Matrix Spike Summary
Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902676

Analyte Name	Sample Result	CTMW-7-0619MS KWG1902676-1 Matrix Spike			CTMW-7-0619DMS KWG1902676-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Diesel Range Organics (DRO)	ND	3230	3270	99	3290	3230	102	28-176	2	30
Residual Range Organics (RRO)	ND	1580	1630	97	1630	1620	101	45-140	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/05/2019
Date Analyzed: 06/19/2019

**Lab Control Spike/Duplicate Lab Control Spike Summary
 Diesel and Residual Range Organics - Silica Gel Treated**

Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902594

Analyte Name	Lab Control Sample KWG1902594-1 Lab Control Spike			Duplicate Lab Control Sample KWG1902594-2 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Diesel Range Organics (DRO)	3040	3200	95	3210	3200	100	46-140	5	30
Residual Range Organics (RRO)	1450	1600	91	1520	1600	95	45-159	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/19/2019

Lab Control Spike Summary
Diesel and Residual Range Organics - Silica Gel Treated

Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902676

Lab Control Sample
 KWG1902676-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Diesel Range Organics (DRO)	1850	3200	58	46-140
Residual Range Organics (RRO)	993	1600	62	45-159

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/05/2019
Date Analyzed: 06/19/2019
Time Analyzed: 21:17

Method Blank Summary
Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Method Blank
Lab Code: KWG1902594-3
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Instrument ID: GC21
File ID: J:\GC21\DATA\061919F\0619F140.D
Level: Low
Extraction Lot: KWG1902594

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1902594-1	J:\GC21\DATA\061919F\0619F138.D	06/19/19	20:34
Duplicate Lab Control Sample	KWG1902594-2	J:\GC21\DATA\061919F\0619F139.D	06/19/19	20:56
CTMW-15-0619	K1905207-003	J:\GC21\DATA\061919F\0619F141.D	06/19/19	21:39
CTMW-20-0619	K1905207-005	J:\GC21\DATA\061919F\0619F143.D	06/19/19	22:21
CTMW-25D-0619	K1905207-004	J:\GC21\DATA\061919F\0619F184.D	06/20/19	12:58

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/19/2019
Time Analyzed: 13:48

Method Blank Summary
Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Method Blank
Lab Code: KWG1902676-4
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Instrument ID: GC21
File ID: J:\GC21\DATA\061919F\0619F119.D
Level: Low
Extraction Lot: KWG1902676

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1902676-3	J:\GC21\DATA\061919F\0619F118.D	06/19/19	13:26
CTMW-14-0619	K1905207-007	J:\GC21\DATA\061919F\0619F120.D	06/19/19	14:09
CTMW-5-0619	K1905207-008	J:\GC21\DATA\061919F\0619F121.D	06/19/19	14:30
CTMW-18-0619	K1905207-009	J:\GC21\DATA\061919F\0619F122.D	06/19/19	14:52
CTMW-7-0619	K1905207-011	J:\GC21\DATA\061919F\0619F123.D	06/19/19	15:13
CTMW-7-0619MS	KWG1902676-1	J:\GC21\DATA\061919F\0619F124.D	06/19/19	15:34
CTMW-7-0619DMS	KWG1902676-2	J:\GC21\DATA\061919F\0619F125.D	06/19/19	15:56
CTMW-9-7-0619	K1905207-012	J:\GC21\DATA\061919F\0619F126.D	06/19/19	16:17
CTMW-8-0619	K1905207-013	J:\GC21\DATA\061919F\0619F127.D	06/19/19	16:39
CTMW-9-0619	K1905207-014	J:\GC21\DATA\061919F\0619F128.D	06/19/19	17:00
CTMW-17-0619	K1905207-015	J:\GC21\DATA\061919F\0619F129.D	06/19/19	17:22
CTMW-17D-0619	K1905207-016	J:\GC21\DATA\061919F\0619F133.D	06/19/19	18:47
Field Blank#1-0619	K1905207-017	J:\GC21\DATA\061919F\0619F134.D	06/19/19	19:09
CTMW-12-0619	K1905207-018	J:\GC21\DATA\061919F\0619F135.D	06/19/19	19:30
CTMW-24D-0619	K1905207-019	J:\GC21\DATA\061919F\0619F136.D	06/19/19	19:51
CTMW-24-0619	K1905207-020	J:\GC21\DATA\061919F\0619F137.D	06/19/19	20:13

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/05/2019
Date Analyzed: 06/19/2019
Time Analyzed: 20:34

Lab Control Sample Summary
Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Lab Control Sample
Lab Code: KWG1902594-1
Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Instrument ID: GC21
File ID: J:\GC21\DATA\061919F\0619F138.D
Level: Low
Extraction Lot: KWG1902594

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1902594-3	J:\GC21\DATA\061919F\0619F140.D	06/19/19	21:17
CTMW-15-0619	K1905207-003	J:\GC21\DATA\061919F\0619F141.D	06/19/19	21:39
CTMW-20-0619	K1905207-005	J:\GC21\DATA\061919F\0619F143.D	06/19/19	22:21
CTMW-25D-0619	K1905207-004	J:\GC21\DATA\061919F\0619F184.D	06/20/19	12:58

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/19/2019
Time Analyzed: 13:26

Lab Control Sample Summary
Diesel and Residual Range Organics - Silica Gel Treated

Sample Name: Lab Control Sample **Instrument ID:** GC21
Lab Code: KWG1902676-3 **File ID:** J:\GC21\DATA\061919F\0619F118.D
Extraction Method: EPA 3510C **Level:** Low
Analysis Method: NWTPH-Dx **Extraction Lot:** KWG1902676

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1902676-4	J:\GC21\DATA\061919F\0619F119.D	06/19/19	13:48
CTMW-14-0619	K1905207-007	J:\GC21\DATA\061919F\0619F120.D	06/19/19	14:09
CTMW-5-0619	K1905207-008	J:\GC21\DATA\061919F\0619F121.D	06/19/19	14:30
CTMW-18-0619	K1905207-009	J:\GC21\DATA\061919F\0619F122.D	06/19/19	14:52
CTMW-7-0619	K1905207-011	J:\GC21\DATA\061919F\0619F123.D	06/19/19	15:13
CTMW-7-0619MS	KWG1902676-1	J:\GC21\DATA\061919F\0619F124.D	06/19/19	15:34
CTMW-7-0619DMS	KWG1902676-2	J:\GC21\DATA\061919F\0619F125.D	06/19/19	15:56
CTMW-9-7-0619	K1905207-012	J:\GC21\DATA\061919F\0619F126.D	06/19/19	16:17
CTMW-8-0619	K1905207-013	J:\GC21\DATA\061919F\0619F127.D	06/19/19	16:39
CTMW-9-0619	K1905207-014	J:\GC21\DATA\061919F\0619F128.D	06/19/19	17:00
CTMW-17-0619	K1905207-015	J:\GC21\DATA\061919F\0619F129.D	06/19/19	17:22
CTMW-17D-0619	K1905207-016	J:\GC21\DATA\061919F\0619F133.D	06/19/19	18:47
Field Blank#1-0619	K1905207-017	J:\GC21\DATA\061919F\0619F134.D	06/19/19	19:09
CTMW-12-0619	K1905207-018	J:\GC21\DATA\061919F\0619F135.D	06/19/19	19:30
CTMW-24D-0619	K1905207-019	J:\GC21\DATA\061919F\0619F136.D	06/19/19	19:51
CTMW-24-0619	K1905207-020	J:\GC21\DATA\061919F\0619F137.D	06/19/19	20:13

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/28/2019

Initial Calibration Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration ID: CAL16045
Instrument ID: GC21

Column: ZB-1

Level ID	File ID	Level ID	File ID
A	J:\GC21\DATA\052819F\0528F115.D	K	J:\GC21\DATA\052819F\0528F127.D
B	J:\GC21\DATA\052819F\0528F116.D	L	J:\GC21\DATA\052819F\0528F128.D
C	J:\GC21\DATA\052819F\0528F117.D	M	J:\GC21\DATA\052819F\0528F129.D
D	J:\GC21\DATA\052819F\0528F118.D	N	J:\GC21\DATA\052819F\0528F132.D
E	J:\GC21\DATA\052819F\0528F119.D	O	J:\GC21\DATA\052819F\0528F133.D
F	J:\GC21\DATA\052819F\0528F122.D	P	J:\GC21\DATA\052819F\0528F134.D
G	J:\GC21\DATA\052819F\0528F123.D	Q	J:\GC21\DATA\052819F\0528F135.D
H	J:\GC21\DATA\052819F\0528F124.D	R	J:\GC21\DATA\052819F\0528F136.D
I	J:\GC21\DATA\052819F\0528F125.D		
J	J:\GC21\DATA\052819F\0528F126.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Diesel Range Organics (DRO)	F	20	1230	G	50	1000	H	200	950	I	500	1110	J	2000	939
	K	5000	1160	L	20000	1170	M	50000	1130						
Residual Range Organics (RRO)	A	50	720	B	200	620	C	500	531	D	2000	588	E	5000	559
o-Terphenyl	F	1.0	1660	G	2.5	1350	H	10	1370	I	25	1620	J	100	1320
	K	250	1650												
n-Triacontane	F	1.0	1450	G	2.5	1170	H	10	1180	I	25	1370	J	100	1120
	K	250	1340												

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/28/2019

Initial Calibration Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration ID: CAL16045
Instrument ID: GC21

Column: ZB-1

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Diesel Range Organics (DRO)	MS	AverageRF	% RSD	10.0		≤ 20
Residual Range Organics (RRO)	MS	AverageRF	% RSD	12.1		≤ 20
o-Terphenyl	SURR	AverageRF	% RSD	10.9		≤ 20
n-Triacontane	SURR	AverageRF	% RSD	10.3		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/28/2019
Date Analyzed: 05/28/2019 - 05/29/2019

Second Source Calibration Verification
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration ID: CAL16045
Units: ppm

File ID: J:\GC21\DATA\052819F\0528F130.D
 J:\GC21\DATA\052919F\0529F115.D
 J:\GC21\DATA\052919F\0529F118.D

Column ID: ZB-1

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	860	1090	935	-14	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	990	604	598	-1	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/19/2019

Continuing Calibration Verification Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration Date: 05/28/2019
Calibration ID: CAL16045
Analysis Lot: KWG1902870
Units: ppm
Column ID: ZB-1

File ID: J:\GC21\DATA\061919F\0619F115.D
 J:\GC21\DATA\061919F\0619F116.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	1090	1190	10	NA	± 15	AverageRF
Residual Range Organics (RRO)	1000	980	604	592	-2	NA	± 15	AverageRF
o-Terphenyl	50	54	1500	1630	9	NA	± 15	AverageRF
n-Triacontane	50	50	1270	1280	0	NA	± 15	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/19/2019

Continuing Calibration Verification Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration Date: 05/28/2019
Calibration ID: CAL16045
Analysis Lot: KWG1902870
Units: ppm
Column ID: ZB-1

File ID: J:\GC21\DATA\061919F\0619F130.D
 J:\GC21\DATA\061919F\0619F131.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	1090	1190	10	NA	± 15	AverageRF
Residual Range Organics (RRO)	1000	1000	604	604	0	NA	± 15	AverageRF
o-Terphenyl	50	55	1500	1640	9	NA	± 15	AverageRF
n-Triacontane	50	51	1270	1290	2	NA	± 15	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/20/2019

Continuing Calibration Verification Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration Date: 05/28/2019
Calibration ID: CAL16045
Analysis Lot: KWG1902870
Units: ppm
Column ID: ZB-1

File ID: J:\GC21\DATA\061919F\0619F148.D
 J:\GC21\DATA\061919F\0619F149.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	960	1090	1050	-4	NA	± 15	AverageRF
Residual Range Organics (RRO)	1000	1000	604	624	3	NA	± 15	AverageRF
o-Terphenyl	50	48	1500	1430	-4	NA	± 15	AverageRF
n-Triacontane	50	45	1270	1130	-11	NA	± 15	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/20/2019

Continuing Calibration Verification Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration Date: 05/28/2019
Calibration ID: CAL16045
Analysis Lot: KWG1902870
Units: ppm
Column ID: ZB-1

File ID: J:\GC21\DATA\061919F\0619F176.D
 J:\GC21\DATA\061919F\0619F177.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	1090	1190	10	NA	± 15	AverageRF
Residual Range Organics (RRO)	1000	1000	604	627	4	NA	± 15	AverageRF
o-Terphenyl	50	55	1500	1640	10	NA	± 15	AverageRF
n-Triacontane	50	50	1270	1270	0	NA	± 15	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/20/2019

Continuing Calibration Verification Summary
Diesel and Residual Range Organics - Silica Gel Treated

Calibration Type: External Standard
Analysis Method: NWTPH-Dx

Calibration Date: 05/28/2019
Calibration ID: CAL16045
Analysis Lot: KWG1902870
Units: ppm
Column ID: ZB-1

File ID: J:\GC21\DATA\061919F\0619F185.D
 J:\GC21\DATA\061919F\0619F186.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	1090	1240	14	NA	± 15	AverageRF
Residual Range Organics (RRO)	1000	990	604	597	-1	NA	± 15	AverageRF
o-Terphenyl	50	58	1500	1720	15	NA	± 15	AverageRF
n-Triacontane	50	51	1270	1310	3	NA	± 15	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
 Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
 Diesel and Residual Range Organics - Silica Gel Treated

Analysis Method: NWTPH-Dx

Analysis Lot: KWG1902870
 Instrument ID: GC21
 Column: ZB-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0619F115.D	Continuing Calibration Verification	KWG1902870-1	6/19/2019	12:22		6/19/2019	12:38
0619F116.D	Continuing Calibration Verification	KWG1902870-1	6/19/2019	12:43		6/19/2019	12:59
0619F117.D	Instrument Blank	KWG1902870-7	6/19/2019	13:05		6/19/2019	13:21
0619F118.D	Lab Control Sample	KWG1902676-3	6/19/2019	13:26		6/19/2019	13:42
0619F119.D	Method Blank	KWG1902676-4	6/19/2019	13:48		6/19/2019	14:04
0619F120.D	CTMW-14-0619	K1905207-007	6/19/2019	14:09		6/19/2019	14:25
0619F121.D	CTMW-5-0619	K1905207-008	6/19/2019	14:30		6/19/2019	14:46
0619F122.D	CTMW-18-0619	K1905207-009	6/19/2019	14:52		6/19/2019	15:08
0619F123.D	CTMW-7-0619	K1905207-011	6/19/2019	15:13		6/19/2019	15:29
0619F124.D	CTMW-7-0619MS	KWG1902676-1	6/19/2019	15:34		6/19/2019	15:50
0619F125.D	CTMW-7-0619DMS	KWG1902676-2	6/19/2019	15:56		6/19/2019	16:12
0619F126.D	CTMW-9-7-0619	K1905207-012	6/19/2019	16:17		6/19/2019	16:33
0619F127.D	CTMW-8-0619	K1905207-013	6/19/2019	16:39		6/19/2019	16:55
0619F128.D	CTMW-9-0619	K1905207-014	6/19/2019	17:00		6/19/2019	17:16
0619F129.D	CTMW-17-0619	K1905207-015	6/19/2019	17:22		6/19/2019	17:38
0619F130.D	Continuing Calibration Verification	KWG1902870-2	6/19/2019	17:43		6/19/2019	17:59
0619F131.D	Continuing Calibration Verification	KWG1902870-2	6/19/2019	18:04		6/19/2019	18:20
0619F132.D	Instrument Blank	KWG1902870-8	6/19/2019	18:26		6/19/2019	18:42
0619F133.D	CTMW-17D-0619	K1905207-016	6/19/2019	18:47		6/19/2019	19:03
0619F134.D	Field Blank#1-0619	K1905207-017	6/19/2019	19:09		6/19/2019	19:25
0619F135.D	CTMW-12-0619	K1905207-018	6/19/2019	19:30		6/19/2019	19:46
0619F136.D	CTMW-24D-0619	K1905207-019	6/19/2019	19:51		6/19/2019	20:07
0619F137.D	CTMW-24-0619	K1905207-020	6/19/2019	20:13		6/19/2019	20:29
0619F138.D	Lab Control Sample	KWG1902594-1	6/19/2019	20:34		6/19/2019	20:50
0619F139.D	Duplicate Lab Control Sample	KWG1902594-2	6/19/2019	20:56		6/19/2019	21:12
0619F140.D	Method Blank	KWG1902594-3	6/19/2019	21:17		6/19/2019	21:33
0619F141.D	CTMW-15-0619	K1905207-003	6/19/2019	21:39		6/19/2019	21:55
0619F143.D	CTMW-20-0619	K1905207-005	6/19/2019	22:21		6/19/2019	22:37
0619F144.D	ZZZZZZ	ZZZZZZ	6/19/2019	22:43		6/19/2019	22:59
0619F145.D	ZZZZZZ	ZZZZZZ	6/19/2019	23:04		6/19/2019	23:20
0619F146.D	ZZZZZZ	ZZZZZZ	6/19/2019	23:25		6/19/2019	23:41
0619F147.D	ZZZZZZ	ZZZZZZ	6/19/2019	23:47		6/20/2019	00:03
0619F148.D	Continuing Calibration Verification	KWG1902870-3	6/20/2019	00:08		6/20/2019	00:24
0619F149.D	Continuing Calibration Verification	KWG1902870-3	6/20/2019	00:30		6/20/2019	00:46

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Diesel and Residual Range Organics - Silica Gel Treated

Analysis Method: NWTPH-Dx

Analysis Lot: KWG1902870
Instrument ID: GC21
Column: ZB-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0619F150.D	Instrument Blank	KWG1902870-9	6/20/2019	00:51		6/20/2019	01:07
0619F151.D	ZZZZZZ	ZZZZZZ	6/20/2019	01:12		6/20/2019	01:28
0619F152.D	ZZZZZZ	ZZZZZZ	6/20/2019	01:34		6/20/2019	01:50
0619F153.D	ZZZZZZ	ZZZZZZ	6/20/2019	01:55		6/20/2019	02:11
0619F154.D	ZZZZZZ	ZZZZZZ	6/20/2019	02:16		6/20/2019	02:32
0619F155.D	ZZZZZZ	ZZZZZZ	6/20/2019	02:38		6/20/2019	02:54
0619F156.D	ZZZZZZ	ZZZZZZ	6/20/2019	02:59		6/20/2019	03:15
0619F157.D	ZZZZZZ	ZZZZZZ	6/20/2019	03:20		6/20/2019	03:36
0619F158.D	ZZZZZZ	ZZZZZZ	6/20/2019	03:42		6/20/2019	03:58
0619F159.D	ZZZZZZ	ZZZZZZ	6/20/2019	04:03		6/20/2019	04:19
0619F160.D	ZZZZZZ	ZZZZZZ	6/20/2019	04:24		6/20/2019	04:40
0619F161.D	ZZZZZZ	ZZZZZZ	6/20/2019	04:46		6/20/2019	05:02
0619F162.D	ZZZZZZ	ZZZZZZ	6/20/2019	05:07		6/20/2019	05:23
0619F163.D	Continuing Calibration Verification	KWG1902870-4	6/20/2019	05:29		6/20/2019	05:45
0619F164.D	Continuing Calibration Verification	KWG1902870-4	6/20/2019	05:50		6/20/2019	06:06
0619F165.D	Instrument Blank	KWG1902870-10	6/20/2019	06:11		6/20/2019	06:27
0619F166.D	ZZZZZZ	ZZZZZZ	6/20/2019	06:33		6/20/2019	06:49
0619F167.D	ZZZZZZ	ZZZZZZ	6/20/2019	06:54		6/20/2019	07:10
0619F168.D	ZZZZZZ	ZZZZZZ	6/20/2019	07:15		6/20/2019	07:31
0619F169.D	ZZZZZZ	ZZZZZZ	6/20/2019	07:37		6/20/2019	07:53
0619F170.D	ZZZZZZ	ZZZZZZ	6/20/2019	07:58		6/20/2019	08:14
0619F173.D	ZZZZZZ	ZZZZZZ	6/20/2019	09:02		6/20/2019	09:18
0619F174.D	ZZZZZZ	ZZZZZZ	6/20/2019	09:24		6/20/2019	09:40
0619F175.D	ZZZZZZ	ZZZZZZ	6/20/2019	09:45		6/20/2019	10:01
0619F176.D	Continuing Calibration Verification	KWG1902870-5	6/20/2019	10:07		6/20/2019	10:23
0619F177.D	Continuing Calibration Verification	KWG1902870-5	6/20/2019	10:28		6/20/2019	10:44
0619F178.D	Instrument Blank	KWG1902870-11	6/20/2019	10:49		6/20/2019	11:05
0619F179.D	ZZZZZZ	ZZZZZZ	6/20/2019	11:11		6/20/2019	11:27
0619F180.D	ZZZZZZ	ZZZZZZ	6/20/2019	11:32		6/20/2019	11:48
0619F181.D	ZZZZZZ	ZZZZZZ	6/20/2019	11:54		6/20/2019	12:10
0619F182.D	ZZZZZZ	ZZZZZZ	6/20/2019	12:15		6/20/2019	12:31
0619F184.D	CTMW-25D-0619	K1905207-004	6/20/2019	12:58		6/20/2019	13:14
0619F185.D	Continuing Calibration Verification	KWG1902870-6	6/20/2019	13:20		6/20/2019	13:36
0619F186.D	Continuing Calibration Verification	KWG1902870-6	6/20/2019	13:41		6/20/2019	13:57

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Diesel and Residual Range Organics - Silica Gel Treated

Analysis Method: NWTPH-Dx

Analysis Lot: KWG1902870
Instrument ID: GC21
Column: ZB-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0619F187.D	Instrument Blank	KWG1902870-12	6/20/2019	14:02		6/20/2019	14:18

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/05/2019

Extraction Prep Log
Diesel and Residual Range Organics - Silica Gel Treated

Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Extraction Lot: KWG1902594
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CTMW-15-0619	K1905207-003	06/04/19	06/05/19	495mL	1ml	NA	
CTMW-25D-0619	K1905207-004	06/04/19	06/05/19	500mL	1ml	NA	
CTMW-20-0619	K1905207-005	06/04/19	06/05/19	495mL	1ml	NA	
Method Blank	KWG1902594-3	NA	NA	500mL	1ml	NA	
Lab Control Sample	KWG1902594-1	NA	NA	500mL	1ml	NA	
Duplicate Lab Control Sample	KWG1902594-2	NA	NA	500mL	1ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019

Extraction Prep Log
Diesel and Residual Range Organics - Silica Gel Treated

Extraction Method: EPA 3510C
Analysis Method: NWTPH-Dx

Extraction Lot: KWG1902676
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CTMW-14-0619	K1905207-007	06/05/19	06/06/19	485mL	1ml	NA	
CTMW-5-0619	K1905207-008	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-18-0619	K1905207-009	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-7-0619	K1905207-011	06/05/19	06/06/19	500mL	1ml	NA	
CTMW-9-7-0619	K1905207-012	06/05/19	06/06/19	490mL	1ml	NA	
CTMW-8-0619	K1905207-013	06/05/19	06/06/19	500mL	1ml	NA	
CTMW-9-0619	K1905207-014	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-17-0619	K1905207-015	06/05/19	06/06/19	490mL	1ml	NA	
CTMW-17D-0619	K1905207-016	06/05/19	06/06/19	495mL	1ml	NA	
Field Blank#1-0619	K1905207-017	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-12-0619	K1905207-018	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-24D-0619	K1905207-019	06/05/19	06/06/19	495mL	1ml	NA	
CTMW-24-0619	K1905207-020	06/05/19	06/06/19	495mL	1ml	NA	
Method Blank	KWG1902676-4	NA	NA	500mL	1ml	NA	
CTMW-7-0619MS	KWG1902676-1	06/05/19	06/06/19	490mL	1ml	NA	
CTMW-7-0619DMS	KWG1902676-2	06/05/19	06/06/19	495mL	1ml	NA	
Lab Control Sample	KWG1902676-3	NA	NA	500mL	1ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

**Cover Page - Organic Analysis Data Package
 Volatile Organic Compounds**

Sample Name	Lab Code	Date Collected	Date Received
Trip Blank #1-0619	K1905207-001	06/04/2019	06/05/2019
CTMW-14-0619	K1905207-002	06/04/2019	06/05/2019
CTMW-15-0619	K1905207-003	06/04/2019	06/05/2019
CTMW-25D-0619	K1905207-004	06/04/2019	06/05/2019
CTMW-20-0619	K1905207-005	06/04/2019	06/05/2019
Trip Blank #2-0619	K1905207-006	06/05/2019	06/06/2019
CTMW-5-0619	K1905207-008	06/05/2019	06/06/2019
CTMW-18-0619	K1905207-009	06/05/2019	06/06/2019
CTMW-7-0619	K1905207-011	06/05/2019	06/06/2019
CTMW-9-7-0619	K1905207-012	06/05/2019	06/06/2019
CTMW-8-0619	K1905207-013	06/05/2019	06/06/2019
CTMW-9-0619	K1905207-014	06/05/2019	06/06/2019
CTMW-17-0619	K1905207-015	06/05/2019	06/06/2019
CTMW-17D-0619	K1905207-016	06/05/2019	06/06/2019
Field Blank#1-0619	K1905207-017	06/05/2019	06/06/2019
CTMW-12-0619	K1905207-018	06/05/2019	06/06/2019
CTMW-24D-0619	K1905207-019	06/05/2019	06/06/2019
CTMW-24-0619	K1905207-020	06/05/2019	06/06/2019
CTMW-7-0619MS	KWG1902692-1	06/05/2019	06/06/2019
CTMW-7-0619DMS	KWG1902692-2	06/05/2019	06/06/2019

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: Trip Blank #1-0619
Lab Code: K1905207-001
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	0.21	J	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: Trip Blank #1-0619
Lab Code: K1905207-001
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	73-122	06/10/19	Acceptable
Toluene-d8	97	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	90	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-14-0619
Lab Code: K1905207-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-14-0619
Lab Code: K1905207-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	73-122	06/10/19	Acceptable
Toluene-d8	100	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-15-0619
Lab Code: K1905207-003
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	0.080	J	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-15-0619
Lab Code: K1905207-003
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	73-122	06/10/19	Acceptable
Toluene-d8	98	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	90	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-25D-0619
Lab Code: K1905207-004
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-25D-0619
Lab Code: K1905207-004
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	06/10/19	Acceptable
Toluene-d8	100	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	94	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-20-0619
Lab Code: K1905207-005
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	0.13	J	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	0.57	J	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	0.070	J	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	0.070	J	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-20-0619
Lab Code: K1905207-005
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	0.24	J	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	0.14	J	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	107	73-122	06/10/19	Acceptable
Toluene-d8	97	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Trip Blank #2-0619
Lab Code: K1905207-006
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	0.31	J	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Trip Blank #2-0619
Lab Code: K1905207-006
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	73-122	06/10/19	Acceptable
Toluene-d8	98	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-5-0619
Lab Code: K1905207-008
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	0.16	J	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	0.11	J	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	0.15	J	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-5-0619
Lab Code: K1905207-008
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	1.5		0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	73-122	06/10/19	Acceptable
Toluene-d8	100	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-18-0619
Lab Code: K1905207-009
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	2.4		2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	0.21	J	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	0.12	J	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	0.13	J	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	0.48	J	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	0.11	J	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	0.33	J	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-18-0619
Lab Code: K1905207-009
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	0.33	J	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	0.20	J	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	0.21	J	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	06/10/19	Acceptable
Toluene-d8	97	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	ND	U	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	06/10/19	Acceptable
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	91	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	06/10/19	Acceptable
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	93	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-8-0619
Lab Code: K1905207-013
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	0.090	J	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	49		20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	4.6	J	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	0.14	J	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	1.1		0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-8-0619
Lab Code: K1905207-013
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	0.050	J	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	59	73-122	06/10/19	Outside Control Limits
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	93	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-0619
Lab Code: K1905207-014
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	0.070	J	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	0.080	J	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-0619
Lab Code: K1905207-014
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	112	73-122	06/10/19	Acceptable
Toluene-d8	97	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	89	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17-0619
Lab Code: K1905207-015
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	0.20	J	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	0.19	J	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	0.26	J	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	0.090	J	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	0.13	J	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	0.16	J	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17-0619
Lab Code: K1905207-015
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	0.080	J	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	111	73-122	06/10/19	Acceptable
Toluene-d8	94	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	91	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17D-0619
Lab Code: K1905207-016
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	0.54		0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17D-0619 **Units:** ug/L
Lab Code: K1905207-016 **Basis:** NA
Extraction Method: EPA 5030B **Level:** Low
Analysis Method: 8260C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	73-122	06/10/19	Acceptable
Toluene-d8	98	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	87	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Field Blank#1-0619
Lab Code: K1905207-017
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	0.29	J	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Field Blank#1-0619
Lab Code: K1905207-017
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	110	73-122	06/10/19	Acceptable
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	92	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-12-0619
Lab Code: K1905207-018
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	0.12	J	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-12-0619
Lab Code: K1905207-018
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	115	73-122	06/10/19	Acceptable
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	89	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24D-0619
Lab Code: K1905207-019
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24D-0619 **Units:** ug/L
Lab Code: K1905207-019 **Basis:** NA
Extraction Method: EPA 5030B **Level:** Low
Analysis Method: 8260C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	113	73-122	06/10/19	Acceptable
Toluene-d8	100	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	96	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24-0619
Lab Code: K1905207-020
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.2	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	0.15	J	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	ND	U	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24-0619
Lab Code: K1905207-020
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	113	73-122	06/10/19	Acceptable
Toluene-d8	98	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	94	68-117	06/10/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902692-4
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.13	1	06/10/19	06/10/19	KWG1902692	
Chloromethane	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Vinyl Chloride	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Bromomethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Chloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
Trichlorofluoromethane	ND	U	0.50	0.12	1	06/10/19	06/10/19	KWG1902692	*
Acrolein	ND	U	20	1.2	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethene	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Acetone	ND	U	20	3.3	1	06/10/19	06/10/19	KWG1902692	
Iodomethane	1.3	J	5.0	0.12	1	06/10/19	06/10/19	KWG1902692	*
Carbon Disulfide	ND	U	0.50	0.069	1	06/10/19	06/10/19	KWG1902692	
3-Chloro-1-propene	ND	U	5.0	0.094	1	06/10/19	06/10/19	KWG1902692	
Acetonitrile	ND	U	50	13	1	06/10/19	06/10/19	KWG1902692	*
Methylene Chloride	0.16	J	2.0	0.10	1	06/10/19	06/10/19	KWG1902692	
Acrylonitrile	ND	U	5.0	0.53	1	06/10/19	06/10/19	KWG1902692	
trans-1,2-Dichloroethene	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1-Dichloroethane	ND	U	0.50	0.077	1	06/10/19	06/10/19	KWG1902692	
Vinyl Acetate	ND	U	5.0	0.43	1	06/10/19	06/10/19	KWG1902692	*
cis-1,2-Dichloroethene	ND	U	0.50	0.067	1	06/10/19	06/10/19	KWG1902692	
2-Butanone (MEK)	ND	U	20	1.9	1	06/10/19	06/10/19	KWG1902692	*
Methacrylonitrile	ND	U	5.0	0.35	1	06/10/19	06/10/19	KWG1902692	
Chloroform	ND	U	0.50	0.072	1	06/10/19	06/10/19	KWG1902692	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.075	1	06/10/19	06/10/19	KWG1902692	
Carbon Tetrachloride	ND	U	0.50	0.096	1	06/10/19	06/10/19	KWG1902692	
Isobutyl Alcohol	ND	U	100	6.9	1	06/10/19	06/10/19	KWG1902692	*
Benzene	ND	U	0.50	0.062	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.080	1	06/10/19	06/10/19	KWG1902692	
Trichloroethene (TCE)	ND	U	0.50	0.10	1	06/10/19	06/10/19	KWG1902692	
1,2-Dichloropropane	ND	U	0.50	0.095	1	06/10/19	06/10/19	KWG1902692	
Dibromomethane	ND	U	0.50	0.15	1	06/10/19	06/10/19	KWG1902692	
Bromodichloromethane	ND	U	0.50	0.091	1	06/10/19	06/10/19	KWG1902692	
2-Chloroethyl Vinyl Ether	ND	U	5.0	0.16	1	06/10/19	06/10/19	KWG1902692	
cis-1,3-Dichloropropene	ND	U	0.50	0.18	1	06/10/19	06/10/19	KWG1902692	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.6	1	06/10/19	06/10/19	KWG1902692	*
Toluene	ND	U	0.50	0.054	1	06/10/19	06/10/19	KWG1902692	

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902692-4
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
trans-1,3-Dichloropropene	ND	U	0.50	0.068	1	06/10/19	06/10/19	KWG1902692	
Ethyl Methacrylate	ND	U	5.0	0.15	1	06/10/19	06/10/19	KWG1902692	
1,1,2-Trichloroethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Tetrachloroethene (PCE)	ND	U	0.50	0.099	1	06/10/19	06/10/19	KWG1902692	*
2-Hexanone	ND	U	20	2.7	1	06/10/19	06/10/19	KWG1902692	*
Dibromochloromethane	ND	U	0.50	0.14	1	06/10/19	06/10/19	KWG1902692	
Chlorobenzene	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
Ethylbenzene	ND	U	0.50	0.050	1	06/10/19	06/10/19	KWG1902692	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
m,p-Xylenes	ND	U	0.50	0.11	1	06/10/19	06/10/19	KWG1902692	
o-Xylene	ND	U	0.50	0.074	1	06/10/19	06/10/19	KWG1902692	
Bromoform	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.16	1	06/10/19	06/10/19	KWG1902692	
trans-1,4-Dichloro-2-butene	ND	U	10	0.35	1	06/10/19	06/10/19	KWG1902692	
1,2,3-Trichloropropane	ND	U	0.50	0.20	1	06/10/19	06/10/19	KWG1902692	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	73-122	06/10/19	Acceptable
Toluene-d8	99	65-144	06/10/19	Acceptable
4-Bromofluorobenzene	91	68-117	06/10/19	Acceptable

Comments: _____

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

**Surrogate Recovery Summary
 Volatile Organic Compounds**

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>
Trip Blank #1-0619	K1905207-001	106	97	90
CTMW-14-0619	K1905207-002	109	100	92
CTMW-15-0619	K1905207-003	106	98	90
CTMW-25D-0619	K1905207-004	111	100	94
CTMW-20-0619	K1905207-005	107	97	92
Trip Blank #2-0619	K1905207-006	106	98	92
CTMW-5-0619	K1905207-008	108	100	92
CTMW-18-0619	K1905207-009	111	97	92
CTMW-7-0619	K1905207-011	111	99	91
CTMW-9-7-0619	K1905207-012	111	99	93
CTMW-8-0619	K1905207-013	59	*	99
CTMW-9-0619	K1905207-014	112	97	89
CTMW-17-0619	K1905207-015	111	94	91
CTMW-17D-0619	K1905207-016	109	98	87
Field Blank#1-0619	K1905207-017	110	99	92
CTMW-12-0619	K1905207-018	115	99	89
CTMW-24D-0619	K1905207-019	113	100	96
CTMW-24-0619	K1905207-020	113	98	94
Method Blank	KWG1902692-4	108	99	91
CTMW-7-0619MS	KWG1902692-1	102	105	97
CTMW-7-0619DMS	KWG1902692-2	100	104	101
Lab Control Sample	KWG1902692-3	100	102	100

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane	73-122
Sur2 = Toluene-d8	65-144
Sur3 = 4-Bromofluorobenzene	68-117

Results flagged with an asterisk (*) indicate values outside control criteria.
 Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/2019
Time Analyzed: 12:48

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS46\DATA\061019\0610F008.D
Instrument ID: MS46
Analysis Method: 8260C

Lab Code: KWG1902691-2
Analysis Lot: KWG1902691

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
Results ==>	538,512	6.50	217,643	9.97	190,230	12.55
Upper Limit ==>	1,077,024	7.00	435,286	10.47	380,460	13.05
Lower Limit ==>	269,256	6.00	108,822	9.47	95,115	12.05
ICAL Result ==>	502,930	6.50	205,578	9.98	190,793	12.56

Associated Analyses

Lab Control Sample	KWG1902692-3	545,630	6.51	222,379	9.97	193,303	12.55
CTMW-7-0619MS	KWG1902692-1	530,766	6.50	221,030	9.98	186,106	12.55
CTMW-7-0619DMS	KWG1902692-2	562,218	6.51	227,681	9.97	197,193	12.55
Method Blank	KWG1902692-4	479,395	6.51	198,934	9.97	159,435	12.55
Trip Blank #1-0619	K1905207-001	479,211	6.51	192,582	9.97	155,879	12.55
Trip Blank #2-0619	K1905207-006	479,039	6.51	191,753	9.97	158,393	12.55
Field Blank#1-0619	K1905207-017	460,283	6.51	186,087	9.97	150,395	12.55
CTMW-14-0619	K1905207-002	457,574	6.51	185,772	9.97	151,863	12.55
CTMW-15-0619	K1905207-003	450,228	6.51	183,137	9.97	148,592	12.55
CTMW-25D-0619	K1905207-004	459,135	6.51	187,087	9.98	154,184	12.55
CTMW-20-0619	K1905207-005	467,702	6.51	189,642	9.97	156,359	12.55
CTMW-5-0619	K1905207-008	450,979	6.51	185,863	9.97	157,103	12.55
CTMW-18-0619	K1905207-009	438,917	6.51	176,267	9.98	147,044	12.55
CTMW-7-0619	K1905207-011	438,185	6.51	178,875	9.97	145,266	12.55
CTMW-9-7-0619	K1905207-012	446,895	6.50	176,857	9.98	149,925	12.55
CTMW-8-0619	K1905207-013	444,009	6.51	183,288	9.97	148,135	12.55
CTMW-9-0619	K1905207-014	442,229	6.51	179,627	9.97	147,518	12.55
CTMW-17-0619	K1905207-015	445,156	6.51	181,485	9.97	147,519	12.55
CTMW-17D-0619	K1905207-016	447,532	6.50	182,665	9.97	144,749	12.55
CTMW-12-0619	K1905207-018	424,620	6.50	176,100	9.97	147,374	12.55
CTMW-24D-0619	K1905207-019	421,026	6.51	169,380	9.97	142,420	12.55
CTMW-24-0619	K1905207-020	415,660	6.51	173,682	9.97	147,644	12.55

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/10/2019

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902692

Analyte Name	Sample Result	CTMW-7-0619MS KWG1902692-1 Matrix Spike			CTMW-7-0619DMS KWG1902692-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Vinyl Chloride	ND	11.3	10.0	113	8.11	10.0	81	49-136	33 *	30
1,1-Dichloroethene	ND	11.6	10.0	116	8.46	10.0	85	59-171	31 *	30
Chloroform	ND	9.43	10.0	94	6.84	10.0	68	64-133	32 *	30
Carbon Tetrachloride	ND	10.9	10.0	109	7.56	10.0	76	53-161	36 *	30
Benzene	ND	10.4	10.0	104	7.63	10.0	76	63-144	31 *	30
Trichloroethene (TCE)	ND	10.1	10.0	101	7.08	10.0	71	53-139	35 *	30
Bromodichloromethane	ND	8.60	10.0	86	6.24	10.0	62	61-134	32 *	30
Toluene	ND	10.1	10.0	101	7.29	10.0	73	71-136	33 *	30
1,1,2-Trichloroethane	ND	8.60	10.0	86	6.92	10.0	69 *	74-124	22	30
2-Hexanone	ND	42.5	50.0	85	37.2	50.0	74	53-132	13	30
Chlorobenzene	ND	9.58	10.0	96	7.03	10.0	70	69-126	31 *	30
Ethylbenzene	ND	9.89	10.0	99	7.08	10.0	71	66-136	33 *	30
1,2,3-Trichloropropane	ND	8.49	10.0	85	7.10	10.0	71	71-127	18	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/10/2019

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902692

Lab Control Sample
 KWG1902692-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Dichlorodifluoromethane	5.71	10.0	57	32-124
Chloromethane	7.16	10.0	72	34-130
Vinyl Chloride	6.61	10.0	66	55-123
Bromomethane	8.81	10.0	88	35-113
Chloroethane	7.59	10.0	76	58-134
Trichlorofluoromethane	4.96	10.0	50 *	52-141
Acrolein	96.0	100	96	42-118
1,1-Dichloroethene	6.74	10.0	67	66-129
Acetone	37.9	50.0	76	68-135
Iodomethane	39.2	30.0	131	51-164
Carbon Disulfide	12.4	20.0	62	46-144
3-Chloro-1-propene	24.1	30.0	80	42-147
Acetonitrile	275	300	92	69-132
Methylene Chloride	9.30	10.0	93	71-122
Acrylonitrile	41.1	40.0	103	65-129
trans-1,2-Dichloroethene	7.28	10.0	73	67-125
1,1-Dichloroethane	8.54	10.0	85	68-132
Vinyl Acetate	42.4	50.0	85	44-156
cis-1,2-Dichloroethene	8.27	10.0	83	71-118
2-Butanone (MEK)	41.4	50.0	83	71-149
Methacrylonitrile	30.3	30.0	101	47-136
Chloroform	7.95	10.0	80	70-129
1,1,1-Trichloroethane (TCA)	6.53	10.0	65	59-136
Carbon Tetrachloride	6.24	10.0	62	55-140
Isobutyl Alcohol	249	300	83	36-142
Benzene	8.18	10.0	82	69-124
1,2-Dichloroethane (EDC)	8.87	10.0	89	56-142
Trichloroethene (TCE)	6.94	10.0	69	67-128
1,2-Dichloropropane	8.77	10.0	88	67-126
Dibromomethane	8.65	10.0	87	69-128
Bromodichloromethane	8.12	10.0	81	63-129
2-Chloroethyl Vinyl Ether	8.91	10.0	89	61-126
cis-1,3-Dichloropropene	8.64	10.0	86	62-132
4-Methyl-2-pentanone (MIBK)	45.2	50.0	90	64-134
Toluene	7.82	10.0	78	69-124

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/10/2019

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1902692

Lab Control Sample
 KWG1902692-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
trans-1,3-Dichloropropene	8.64	10.0	86	59-125
Ethyl Methacrylate	28.7	30.0	96	48-143
1,1,2-Trichloroethane	8.82	10.0	88	74-118
Tetrachloroethene (PCE)	6.00	10.0	60 *	62-126
2-Hexanone	42.9	50.0	86	59-131
Dibromochloromethane	8.43	10.0	84	67-126
Chlorobenzene	8.51	10.0	85	72-116
Ethylbenzene	7.31	10.0	73	67-121
1,1,1,2-Tetrachloroethane	8.31	10.0	83	66-124
m,p-Xylenes	15.4	20.0	77	69-121
o-Xylene	7.88	10.0	79	71-119
Bromoform	8.14	10.0	81	52-144
1,1,2,2-Tetrachloroethane	9.21	10.0	92	70-127
trans-1,4-Dichloro-2-butene	28.6	30.0	95	46-170
1,2,3-Trichloropropane	8.68	10.0	87	69-123

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/10/2019
Time Analyzed: 15:29

Method Blank Summary
Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902692-4
Extraction Method: EPA 5030B
Analysis Method: 8260C
Instrument ID: MS46
File ID: J:\MS46\DATA\061019\0610F014.D
Level: Low
Extraction Lot: KWG1902692

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1902692-3	J:\MS46\DATA\061019\0610F009.D	06/10/19	13:15
CTMW-7-0619MS	KWG1902692-1	J:\MS46\DATA\061019\0610F010.D	06/10/19	13:43
CTMW-7-0619DMS	KWG1902692-2	J:\MS46\DATA\061019\0610F011.D	06/10/19	14:10
Trip Blank #1-0619	K1905207-001	J:\MS46\DATA\061019\0610F015.D	06/10/19	15:56
Trip Blank #2-0619	K1905207-006	J:\MS46\DATA\061019\0610F016.D	06/10/19	16:22
Field Blank#1-0619	K1905207-017	J:\MS46\DATA\061019\0610F017.D	06/10/19	16:49
CTMW-14-0619	K1905207-002	J:\MS46\DATA\061019\0610F018.D	06/10/19	17:15
CTMW-15-0619	K1905207-003	J:\MS46\DATA\061019\0610F019.D	06/10/19	17:42
CTMW-25D-0619	K1905207-004	J:\MS46\DATA\061019\0610F020.D	06/10/19	18:08
CTMW-20-0619	K1905207-005	J:\MS46\DATA\061019\0610F021.D	06/10/19	18:35
CTMW-5-0619	K1905207-008	J:\MS46\DATA\061019\0610F022.D	06/10/19	19:01
CTMW-18-0619	K1905207-009	J:\MS46\DATA\061019\0610F023.D	06/10/19	19:28
CTMW-7-0619	K1905207-011	J:\MS46\DATA\061019\0610F024.D	06/10/19	19:55
CTMW-9-7-0619	K1905207-012	J:\MS46\DATA\061019\0610F025.D	06/10/19	20:21
CTMW-8-0619	K1905207-013	J:\MS46\DATA\061019\0610F026.D	06/10/19	20:48
CTMW-9-0619	K1905207-014	J:\MS46\DATA\061019\0610F027.D	06/10/19	21:14
CTMW-17-0619	K1905207-015	J:\MS46\DATA\061019\0610F028.D	06/10/19	21:41
CTMW-17D-0619	K1905207-016	J:\MS46\DATA\061019\0610F029.D	06/10/19	22:08
CTMW-12-0619	K1905207-018	J:\MS46\DATA\061019\0610F030.D	06/10/19	22:34
CTMW-24D-0619	K1905207-019	J:\MS46\DATA\061019\0610F031.D	06/10/19	23:01
CTMW-24-0619	K1905207-020	J:\MS46\DATA\061019\0610F032.D	06/10/19	23:27

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019
Date Analyzed: 06/10/2019
Time Analyzed: 13:15

Lab Control Sample Summary
Volatile Organic Compounds

Sample Name: Lab Control Sample **Instrument ID:** MS46
Lab Code: KWG1902692-3 **File ID:** J:\MS46\DATA\061019\0610F009.D
Extraction Method: EPA 5030B **Level:** Low
Analysis Method: 8260C **Extraction Lot:** KWG1902692

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
CTMW-7-0619MS	KWG1902692-1	J:\MS46\DATA\061019\0610F010.D	06/10/19	13:43
CTMW-7-0619DMS	KWG1902692-2	J:\MS46\DATA\061019\0610F011.D	06/10/19	14:10
Method Blank	KWG1902692-4	J:\MS46\DATA\061019\0610F014.D	06/10/19	15:29
Trip Blank #1-0619	K1905207-001	J:\MS46\DATA\061019\0610F015.D	06/10/19	15:56
Trip Blank #2-0619	K1905207-006	J:\MS46\DATA\061019\0610F016.D	06/10/19	16:22
Field Blank#1-0619	K1905207-017	J:\MS46\DATA\061019\0610F017.D	06/10/19	16:49
CTMW-14-0619	K1905207-002	J:\MS46\DATA\061019\0610F018.D	06/10/19	17:15
CTMW-15-0619	K1905207-003	J:\MS46\DATA\061019\0610F019.D	06/10/19	17:42
CTMW-25D-0619	K1905207-004	J:\MS46\DATA\061019\0610F020.D	06/10/19	18:08
CTMW-20-0619	K1905207-005	J:\MS46\DATA\061019\0610F021.D	06/10/19	18:35
CTMW-5-0619	K1905207-008	J:\MS46\DATA\061019\0610F022.D	06/10/19	19:01
CTMW-18-0619	K1905207-009	J:\MS46\DATA\061019\0610F023.D	06/10/19	19:28
CTMW-7-0619	K1905207-011	J:\MS46\DATA\061019\0610F024.D	06/10/19	19:55
CTMW-9-7-0619	K1905207-012	J:\MS46\DATA\061019\0610F025.D	06/10/19	20:21
CTMW-8-0619	K1905207-013	J:\MS46\DATA\061019\0610F026.D	06/10/19	20:48
CTMW-9-0619	K1905207-014	J:\MS46\DATA\061019\0610F027.D	06/10/19	21:14
CTMW-17-0619	K1905207-015	J:\MS46\DATA\061019\0610F028.D	06/10/19	21:41
CTMW-17D-0619	K1905207-016	J:\MS46\DATA\061019\0610F029.D	06/10/19	22:08
CTMW-12-0619	K1905207-018	J:\MS46\DATA\061019\0610F030.D	06/10/19	22:34
CTMW-24D-0619	K1905207-019	J:\MS46\DATA\061019\0610F031.D	06/10/19	23:01
CTMW-24-0619	K1905207-020	J:\MS46\DATA\061019\0610F032.D	06/10/19	23:27

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/2019
Time Analyzed: 11:53

Tune Summary
Volatile Organic Compounds

File ID: J:\MS46\DATA\061019\0610F006.D
Instrument ID: GCMS46
Column:

Analysis Method: 8260C
Analysis Lot: KWG1902691

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	20.2	13002	PASS
75	95	30	60	53.6	34533	PASS
95	95	100	100	100.0	64384	PASS
96	95	5	9	6.7	4289	PASS
173	174	0	2	1.0	570	PASS
174	95	50	120	88.2	56781	PASS
175	174	5	9	7.5	4265	PASS
176	174	95	101	96.9	55010	PASS
177	176	5	9	6.2	3433	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1902691-2	J:\MS46\DATA\061019\0610F008.D	06/10/2019	12:48	
Lab Control Sample	KWG1902692-3	J:\MS46\DATA\061019\0610F009.D	06/10/2019	13:15	
CTMW-7-0619MS	KWG1902692-1	J:\MS46\DATA\061019\0610F010.D	06/10/2019	13:43	
CTMW-7-0619DMS	KWG1902692-2	J:\MS46\DATA\061019\0610F011.D	06/10/2019	14:10	
Method Blank	KWG1902692-4	J:\MS46\DATA\061019\0610F014.D	06/10/2019	15:29	
Trip Blank #1-0619	K1905207-001	J:\MS46\DATA\061019\0610F015.D	06/10/2019	15:56	
Trip Blank #2-0619	K1905207-006	J:\MS46\DATA\061019\0610F016.D	06/10/2019	16:22	
Field Blank#1-0619	K1905207-017	J:\MS46\DATA\061019\0610F017.D	06/10/2019	16:49	
CTMW-14-0619	K1905207-002	J:\MS46\DATA\061019\0610F018.D	06/10/2019	17:15	
CTMW-15-0619	K1905207-003	J:\MS46\DATA\061019\0610F019.D	06/10/2019	17:42	
CTMW-25D-0619	K1905207-004	J:\MS46\DATA\061019\0610F020.D	06/10/2019	18:08	
CTMW-20-0619	K1905207-005	J:\MS46\DATA\061019\0610F021.D	06/10/2019	18:35	
CTMW-5-0619	K1905207-008	J:\MS46\DATA\061019\0610F022.D	06/10/2019	19:01	
CTMW-18-0619	K1905207-009	J:\MS46\DATA\061019\0610F023.D	06/10/2019	19:28	
CTMW-7-0619	K1905207-011	J:\MS46\DATA\061019\0610F024.D	06/10/2019	19:55	
CTMW-9-7-0619	K1905207-012	J:\MS46\DATA\061019\0610F025.D	06/10/2019	20:21	
CTMW-8-0619	K1905207-013	J:\MS46\DATA\061019\0610F026.D	06/10/2019	20:48	
CTMW-9-0619	K1905207-014	J:\MS46\DATA\061019\0610F027.D	06/10/2019	21:14	
CTMW-17-0619	K1905207-015	J:\MS46\DATA\061019\0610F028.D	06/10/2019	21:41	
CTMW-17D-0619	K1905207-016	J:\MS46\DATA\061019\0610F029.D	06/10/2019	22:08	
CTMW-12-0619	K1905207-018	J:\MS46\DATA\061019\0610F030.D	06/10/2019	22:34	
CTMW-24D-0619	K1905207-019	J:\MS46\DATA\061019\0610F031.D	06/10/2019	23:01	
CTMW-24-0619	K1905207-020	J:\MS46\DATA\061019\0610F032.D	06/10/2019	23:27	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS46\DATA\050819\0508F009.D	G	J:\MS46\DATA\050819\0508F015.D
B	J:\MS46\DATA\050819\0508F010.D	H	J:\MS46\DATA\050819\0508F016.D
C	J:\MS46\DATA\050819\0508F011.D	I	J:\MS46\DATA\050819\0508F017.D
D	J:\MS46\DATA\050819\0508F012.D	J	J:\MS46\DATA\050819\0508F018.D
E	J:\MS46\DATA\050819\0508F013.D	K	J:\MS46\DATA\050819\0508F019.D
F	J:\MS46\DATA\050819\0508F014.D		

Analyte Name	Level ID			Level ID			Level ID			Level ID			Level ID		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Dichlorodifluoromethane	A	80	0.403	B	60	0.366	C	40	0.338	D	20	0.286	E	10	0.282
	F	5.0	0.371	G	2.0	0.270	H	1.0	0.348	I	0.50	0.246			
Chloromethane	A	80	0.341	B	60	0.330	C	40	0.312	D	20	0.290	E	10	0.279
	F	5.0	0.337	G	2.0	0.289	H	1.0	0.325	I	0.50	0.337			
Vinyl Chloride	A	80	0.357	B	60	0.322	C	40	0.307	D	20	0.278	E	10	0.268
	F	5.0	0.354	G	2.0	0.269	H	1.0	0.329	I	0.50	0.233	J	0.20	0.423
	K	0.10	0.416												
Bromomethane	A	80	0.163	B	60	0.164	C	40	0.163	D	20	0.164	E	10	0.160
	F	5.0	0.187	G	2.0	0.156	H	1.0	0.156	I	0.50	0.167			
Chloroethane	A	80	0.194	B	60	0.175	C	40	0.168	D	20	0.158	E	10	0.155
	F	5.0	0.197	G	2.0	0.167	H	1.0	0.220	I	0.50	0.175	J	0.20	0.279
Trichlorofluoromethane	A	80	0.513	B	60	0.447	C	40	0.418	D	20	0.379	E	10	0.370
	F	5.0	0.483	G	2.0	0.354	H	1.0	0.407	I	0.50	0.301	J	0.20	0.539
Acrolein	A	1600	0.0363	B	1200	0.0369	C	800	0.0363	D	400	0.0356	E	200	0.0362
	F	100	0.0357	G	40	0.0349	H	20	0.0380	I	10	0.0351	J	4.0	0.0319
	K	2.0	0.0400												
1,1-Dichloroethene	A	80	0.251	B	60	0.223	C	40	0.215	D	20	0.196	E	10	0.191
	F	5.0	0.248	G	2.0	0.191	H	1.0	0.209	I	0.50	0.168			
Acetone	A	800	0.0608	B	600	0.0644	C	400	0.0635	D	200	0.0615	E	100	0.0648
	F	50	0.0623	G	20	0.0630	H	10	0.0754	I	5.0	0.0752	J	2.0	0.0832
Iodomethane	A	320	0.251	B	240	0.217	C	160	0.206	D	80	0.186	E	40	0.160
	F	20	0.171	G	8.0	0.121	H	4.0	0.125						

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Carbon Disulfide	A	80	0.799	B	60	0.707	C	40	0.669	D	20	0.619	E	10	0.594
	F	5.0	0.759	G	2.0	0.591	H	1.0	0.678	I	0.50	0.587	J	0.20	1.01
3-Chloro-1-propene	A	80	0.129	B	60	0.114	C	40	0.112	D	20	0.111	E	10	0.109
	F	5.0	0.139	G	2.0	0.112	H	1.0	0.135	I	0.50	0.140			
Acetonitrile	A	3200	0.0101	B	2400	0.0107	C	1600	0.0107	D	800	0.0105	E	400	0.0115
	F	200	0.0107	G	80	0.0116	H	40	0.0140	I	20	0.0132			
Methylene Chloride	A	80	0.271	B	60	0.253	C	40	0.247	D	20	0.248	E	10	0.240
	F	5.0	0.261	G	2.0	0.270	H	1.0	0.294	I	0.50	0.330			
Acrylonitrile	A	320	0.0697	B	240	0.0710	C	160	0.0718	D	80	0.0696	E	40	0.0728
	F	20	0.0718	G	8.0	0.0716	H	4.0	0.0726	I	2.0	0.0722			
trans-1,2-Dichloroethene	A	80	0.285	B	60	0.255	C	40	0.243	D	20	0.231	E	10	0.229
	F	5.0	0.264	G	2.0	0.230	H	1.0	0.270	I	0.50	0.240	J	0.20	0.333
1,1-Dichloroethane	A	80	0.504	B	60	0.454	C	40	0.444	D	20	0.428	E	10	0.415
	F	5.0	0.475	G	2.0	0.410	H	1.0	0.432	I	0.50	0.368	J	0.20	0.634
Vinyl Acetate	A	160	0.0529	B	120	0.0532	C	80	0.0516	D	40	0.0497	E	20	0.0482
	F	10	0.0475	G	4.0	0.0498	H	2.0	0.0567	I	1.0	0.0640	J	0.40	0.0773
cis-1,2-Dichloroethene	A	80	0.304	B	60	0.279	C	40	0.278	D	20	0.268	E	10	0.254
	F	5.0	0.297	G	2.0	0.253	H	1.0	0.276	I	0.50	0.273	J	0.20	0.369
2-Butanone (MEK)	A	800	0.0215	B	600	0.0229	C	400	0.0230	D	200	0.0223	E	100	0.0235
	F	50	0.0226	G	20	0.0208	H	10	0.0258	I	5.0	0.0276	J	2.0	0.0340
Methacrylonitrile	A	320	0.0863	B	240	0.0880	C	160	0.0876	D	80	0.0874	E	40	0.0872
	F	20	0.0851	G	8.0	0.0833	H	4.0	0.0858	I	2.0	0.0881	J	0.80	0.0984
Chloroform	A	80	0.526	B	60	0.473	C	40	0.463	D	20	0.450	E	10	0.439
	F	5.0	0.495	G	2.0	0.444	H	1.0	0.479	I	0.50	0.448	J	0.20	0.644
	K	0.10	0.751												

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
1,1,1-Trichloroethane (TCA)	A	80	0.490	B	60	0.423	C	40	0.400	D	20	0.372	E	10	0.355
	F	5.0	0.451	G	2.0	0.325	H	1.0	0.397	I	0.50	0.331	J	0.20	0.533
Carbon Tetrachloride	A	80	0.451	B	60	0.386	C	40	0.359	D	20	0.327	E	10	0.310
	F	5.0	0.401	G	2.0	0.287	H	1.0	0.357	I	0.50	0.249	J	0.20	0.396
Isobutyl Alcohol	A	3200	0.00428	B	2400	0.00560	C	1600	0.00537	D	800	0.00505	E	400	0.00566
	F	200	0.00510	G	80	0.00551	H	40	0.00524	I	20	0.00497			
Benzene	A	80	1.19	B	60	1.06	C	40	1.03	D	20	0.993	E	10	0.966
	F	5.0	1.12	G	2.0	0.925	H	1.0	1.02	I	0.50	0.957	J	0.20	1.19
	K	0.10	1.33												
1,2-Dichloroethane (EDC)	A	80	0.384	B	60	0.356	C	40	0.349	D	20	0.346	E	10	0.352
	F	5.0	0.353	G	2.0	0.360	H	1.0	0.387	I	0.50	0.409	J	0.20	0.490
Trichloroethene (TCE)	A	80	0.320	B	60	0.282	C	40	0.270	D	20	0.256	E	10	0.247
	F	5.0	0.298	G	2.0	0.236	H	1.0	0.285	I	0.50	0.260	J	0.20	0.371
1,2-Dichloropropane	A	80	0.306	B	60	0.285	C	40	0.279	D	20	0.277	E	10	0.268
	F	5.0	0.285	G	2.0	0.261	H	1.0	0.283	I	0.50	0.279	J	0.20	0.301
Dibromomethane	A	80	0.168	B	60	0.159	C	40	0.157	D	20	0.159	E	10	0.157
	F	5.0	0.161	G	2.0	0.158	H	1.0	0.181	I	0.50	0.198	J	0.20	0.224
Bromodichloromethane	A	80	0.416	B	60	0.381	C	40	0.374	D	20	0.371	E	10	0.360
	F	5.0	0.369	G	2.0	0.330	H	1.0	0.368	I	0.50	0.375	J	0.20	0.457
	K	0.10	0.531												
2-Chloroethyl Vinyl Ether	A	80	0.171	B	60	0.170	C	40	0.169	D	20	0.165	E	10	0.159
	F	5.0	0.151	G	2.0	0.143	H	1.0	0.155	I	0.50	0.175	J	0.20	0.151
cis-1,3-Dichloropropene	A	80	0.493	B	60	0.459	C	40	0.447	D	20	0.443	E	10	0.429
	F	5.0	0.412	G	2.0	0.389	H	1.0	0.397	I	0.50	0.408	J	0.20	0.438
	K	0.10	0.614												
4-Methyl-2-pentanone (MIBK)	A	800	0.0828	B	600	0.0862	C	400	0.0856	D	200	0.0862	E	100	0.0886
	F	50	0.0864	G	20	0.0781	H	10	0.0828	I	5.0	0.0949	J	2.0	0.0719

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Toluene	A	80	0.769	B	60	0.691	C	40	0.655	D	20	0.645	E	10	0.611
	F	5.0	0.725	G	2.0	0.562	H	1.0	0.639	I	0.50	0.573	J	0.20	0.823
	K	0.10	0.793												
trans-1,3-Dichloropropene	A	80	1.02	B	60	0.991	C	40	0.967	D	20	0.958	E	10	0.939
	F	5.0	0.908	G	2.0	0.849	H	1.0	0.840	I	0.50	0.892	J	0.20	0.975
	K	0.10	1.29												
Ethyl Methacrylate	A	80	0.741	B	60	0.769	C	40	0.754	D	20	0.754	E	10	0.747
	F	5.0	0.743	G	2.0	0.620	H	1.0	0.641	I	0.50	0.665	J	0.20	0.629
	K	0.10	0.916												
1,1,2-Trichloroethane	A	80	0.484	B	60	0.483	C	40	0.478	D	20	0.484	E	10	0.498
	F	5.0	0.482	G	2.0	0.474	H	1.0	0.453	I	0.50	0.520	J	0.20	0.730
	K	0.10	0.640												
Tetrachloroethene (PCE)	A	80	0.694	B	60	0.635	C	40	0.589	D	20	0.545	E	10	0.543
	F	5.0	0.690	G	2.0	0.533	H	1.0	0.582	I	0.50	0.531	J	0.20	0.767
	K	0.10	0.889												
2-Hexanone	A	800	0.0629	B	600	0.0691	C	400	0.0679	D	200	0.0685	E	100	0.0727
	F	50	0.0693	G	20	0.0636	H	10	0.0656	I	5.0	0.0712	J	2.0	0.0597
	K	1.0	0.0701												
Dibromochloromethane	A	80	0.723	B	60	0.701	C	40	0.698	D	20	0.702	E	10	0.709
	F	5.0	0.667	G	2.0	0.615	H	1.0	0.604	I	0.50	0.674	J	0.20	0.630
	K	0.10	0.868												
Chlorobenzene	A	80	1.92	B	60	1.80	C	40	1.73	D	20	1.76	E	10	1.72
	F	5.0	1.86	G	2.0	1.66	H	1.0	1.71	I	0.50	1.70	J	0.20	2.07
	K	0.10	2.00												
Ethylbenzene	A	80	1.08	B	60	0.977	C	40	0.936	D	20	0.905	E	10	0.884
	F	5.0	1.05	G	2.0	0.792	H	1.0	0.895	I	0.50	0.797	J	0.20	1.04
	K	0.10	1.23												
1,1,1,2-Tetrachloroethane	A	80	0.717	B	60	0.673	C	40	0.660	D	20	0.653	E	10	0.659
	F	5.0	0.669	G	2.0	0.602	H	1.0	0.667	I	0.50	0.624	J	0.20	0.707
	K	0.10	0.676												
m,p-Xylenes	A	160	1.31	B	120	1.21	C	80	1.16	D	40	1.11	E	20	1.11
	F	10	1.28	G	4.0	1.00	H	2.0	1.07	I	1.0	0.919	J	0.40	1.13
	K	0.20	1.31												
o-Xylene	A	80	1.24	B	60	1.15	C	40	1.10	D	20	1.09	E	10	1.08
	F	5.0	1.19	G	2.0	0.945	H	1.0	1.03	I	0.50	0.992	J	0.20	1.23
	K	0.10	1.15												

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Bromoform	A	80	0.466	B	60	0.464	C	40	0.454	D	20	0.450	E	10	0.466
	F	5.0	0.447	G	2.0	0.392	H	1.0	0.396	I	0.50	0.391	J	0.20	0.438
	K	0.10	0.405												
1,1,2,2-Tetrachloroethane	A	80	0.690	B	60	0.724	C	40	0.739	D	20	0.735	E	10	0.798
	F	5.0	0.817	G	2.0	0.793	H	1.0	0.699	I	0.50	0.797	J	0.20	0.897
	K	0.10	0.918												
trans-1,4-Dichloro-2-butene				B	60	0.214	C	40	0.214	D	20	0.213	E	10	0.211
	F	5.0	0.218												
1,2,3-Trichloropropane	A	80	0.220	B	60	0.233	C	40	0.234	D	20	0.242	E	10	0.252
	F	5.0	0.262	G	2.0	0.248	H	1.0	0.271	I	0.50	0.275	J	0.20	0.297
Dibromofluoromethane	A	10	0.240	B	10	0.251	C	10	0.251	D	10	0.246	E	10	0.252
	F	10	0.248	G	10	0.249	H	10	0.255	I	10	0.255	J	10	0.256
	K	10	0.257												
Toluene-d8	A	10	0.931	B	10	0.956	C	10	0.962	D	10	0.963	E	10	0.938
	F	10	0.946	G	10	0.921	H	10	0.943	I	10	0.945	J	10	0.932
	K	10	0.942												
4-Bromofluorobenzene	A	10	0.783	B	10	0.826	C	10	0.821	D	10	0.829	E	10	0.853
	F	10	0.842	G	10	0.830	H	10	0.808	I	10	0.828	J	10	0.785
	K	10	0.789												

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Dichlorodifluoromethane	TRG	AverageRF	% RSD	16.6	≤20	0.323		0.100	
Chloromethane	TRG	AverageRF	% RSD	7.6	≤20	0.316		0.100	
Vinyl Chloride	MS	AverageRF	% RSD	18.8	≤20	0.323		0.100	
Bromomethane	TRG	AverageRF	% RSD	5.5	≤20	0.164		0.100	
Chloroethane	TRG	AverageRF	% RSD	19.8	≤20	0.189		0.100	
Trichlorofluoromethane	TRG	AverageRF	% RSD	17.7	≤20	0.421		0.100	
Acrolein	TRG	AverageRF	% RSD	5.5	≤20	0.0361		0.01	
1,1-Dichloroethene	MS	AverageRF	% RSD	13.1	≤20	0.210		0.100	
Acetone	TRG	Linear(0,0)	R2	0.999	≥0.990	0.0674		0.010	
Iodomethane	TRG	Quadratic	COD	0.999	≥0.990	0.180		0.01	
Carbon Disulfide	TRG	AverageRF	% RSD	18.7	≤20	0.702		0.100	
3-Chloro-1-propene	TRG	AverageRF	% RSD	10.7	≤20	0.122		0.01	
Acetonitrile	TRG	AverageRF	% RSD	11.7	≤20	0.0114		0.01	
Methylene Chloride	TRG	AverageRF	% RSD	10.5	≤20	0.268		0.100	
Acrylonitrile	TRG	AverageRF	% RSD	1.6	≤20	0.0715		0.01	
trans-1,2-Dichloroethene	TRG	AverageRF	% RSD	12.5	≤20	0.258		0.100	
1,1-Dichloroethane	TRG	AverageRF	% RSD	15.9	≤20	0.456		0.200	
Vinyl Acetate	TRG	AverageRF	% RSD	16.7	≤20	0.0551		0.01	
cis-1,2-Dichloroethene	TRG	AverageRF	% RSD	11.8	≤20	0.285		0.100	
2-Butanone (MEK)	TRG	AverageRF	% RSD	16.1	≤20	0.0244		0.010	
Methacrylonitrile	TRG	AverageRF	% RSD	4.6	≤20	0.0877		0.01	
Chloroform	MS	AverageRF	% RSD	19.4	≤20	0.510		0.200	
1,1,1-Trichloroethane (TCA)	TRG	AverageRF	% RSD	16.7	≤20	0.408		0.100	
Carbon Tetrachloride	MS	AverageRF	% RSD	17.0	≤20	0.352		0.100	
Isobutyl Alcohol	TRG	AverageRF	% RSD	8.1	≤20	0.00520	*	0.01	
Benzene	MS	AverageRF	% RSD	11.5	≤20	1.07		0.500	
1,2-Dichloroethane (EDC)	TRG	AverageRF	% RSD	11.6	≤20	0.379		0.100	
Trichloroethene (TCE)	MS	AverageRF	% RSD	14.1	≤20	0.283		0.200	
1,2-Dichloropropane	TRG	AverageRF	% RSD	4.8	≤20	0.282		0.100	
Dibromomethane	TRG	AverageRF	% RSD	13.0	≤20	0.172		0.01	
Bromodichloromethane	MS	AverageRF	% RSD	14.2	≤20	0.394		0.200	
2-Chloroethyl Vinyl Ether	TRG	AverageRF	% RSD	6.6	≤20	0.161		0.01	
cis-1,3-Dichloropropene	TRG	AverageRF	% RSD	14.0	≤20	0.448		0.200	
4-Methyl-2-pentanone (MIBK)	TRG	AverageRF	% RSD	7.3	≤20	0.0843		0.010	
Toluene	MS	AverageRF	% RSD	12.9	≤20	0.681		0.400	
trans-1,3-Dichloropropene	TRG	AverageRF	% RSD	12.7	≤20	0.966		0.100	
Ethyl Methacrylate	TRG	AverageRF	% RSD	11.7	≤20	0.725		0.01	
1,1,2-Trichloroethane	MS	AverageRF	% RSD	16.4	≤20	0.520		0.100	
Tetrachloroethene (PCE)	TRG	AverageRF	% RSD	18.0	≤20	0.636		0.200	
2-Hexanone	MS	AverageRF	% RSD	5.9	≤20	0.0673		0.015	
Dibromochloromethane	TRG	AverageRF	% RSD	10.4	≤20	0.690		0.100	
Chlorobenzene	MS	AverageRF	% RSD	7.4	≤20	1.81		0.500	

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019

**Initial Calibration Summary
 Volatile Organic Compounds**

Calibration ID: CAL16042
Instrument ID: MS46

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Ethylbenzene	MS	AverageRF	% RSD	13.6		≤ 20	0.963		0.100
1,1,1,2-Tetrachloroethane	TRG	AverageRF	% RSD	4.9		≤ 20	0.664		0.01
m,p-Xylenes	TRG	AverageRF	% RSD	10.9		≤ 20	1.15		0.100
o-Xylene	TRG	AverageRF	% RSD	8.6		≤ 20	1.11		0.300
Bromoform	TRG	AverageRF	% RSD	7.1		≤ 20	0.434		0.100
1,1,2,2-Tetrachloroethane	TRG	AverageRF	% RSD	9.6		≤ 20	0.783		0.300
trans-1,4-Dichloro-2-butene	TRG	AverageRF	% RSD	1.2		≤ 20	0.214		0.01
1,2,3-Trichloropropane	MS	AverageRF	% RSD	9.2		≤ 20	0.253		0.01
Dibromofluoromethane	SURR	AverageRF	% RSD	2.0		≤ 20	0.251		0.01
Toluene-d8	SURR	AverageRF	% RSD	1.4		≤ 20	0.943		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	2.9		≤ 20	0.818		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019
Date Analyzed: 05/08/2019

Second Source Calibration Verification
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration ID: CAL16042
Units: PPB

File ID: J:\MS46\DATA\050819\0508F021.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Dichlorodifluoromethane	10	9.1	0.323	0.295	-9	NA	± 30 %	AverageRF
Chloromethane	10	9.4	0.316	0.298	-6	NA	± 30 %	AverageRF
Vinyl Chloride	10	9.9	0.323	0.319	-1	NA	± 30 %	AverageRF
Bromomethane	10	8.5	0.164	0.140	-15	NA	± 30 %	AverageRF
Chloroethane	10	9.8	0.189	0.185	-2	NA	± 30 %	AverageRF
Trichlorofluoromethane	10	9.5	0.421	0.399	-5	NA	± 30 %	AverageRF
Acrolein	100	110	0.0361	0.0381	6	NA	± 30 %	AverageRF
1,1-Dichloroethene	10	11	0.210	0.228	8	NA	± 30 %	AverageRF
Acetone	50	36	0.0674	0.0443	NA	-29	± 30 %	Linear(0,0)
Iodomethane	30	30	0.180	0.162	NA	0	± 30 %	Quadratic
Carbon Disulfide	20	20	0.702	0.685	-2	NA	± 30 %	AverageRF
3-Chloro-1-propene	30	23	0.122	0.0925	-24	NA	± 30 %	AverageRF
Acetonitrile	300	280	0.0114	0.0106	-7	NA	± 30 %	AverageRF
Methylene Chloride	10	9.8	0.268	0.262	-2	NA	± 30 %	AverageRF
Acrylonitrile	40	43	0.0715	0.0774	8	NA	± 30 %	AverageRF
trans-1,2-Dichloroethene	10	10	0.258	0.261	1	NA	± 30 %	AverageRF
1,1-Dichloroethane	10	11	0.456	0.493	8	NA	± 30 %	AverageRF
Vinyl Acetate	50	43	0.0551	0.0469	-15	NA	± 30 %	AverageRF
cis-1,2-Dichloroethene	10	9.6	0.285	0.274	-4	NA	± 30 %	AverageRF
2-Butanone (MEK)	50	43	0.0244	0.0208	-15	NA	± 30 %	AverageRF
Methacrylonitrile	30	31	0.0877	0.0905	3	NA	± 30 %	AverageRF
Chloroform	10	9.5	0.510	0.483	-5	NA	± 30 %	AverageRF
1,1,1-Trichloroethane (TCA)	10	11	0.408	0.433	6	NA	± 30 %	AverageRF
Carbon Tetrachloride	10	11	0.352	0.385	9	NA	± 30 %	AverageRF
Isobutyl Alcohol	300	250	0.00520	0.00438	-16	NA	± 30 %	AverageRF
Benzene	10	10	1.07	1.10	2	NA	± 30 %	AverageRF
1,2-Dichloroethane (EDC)	10	9.3	0.379	0.352	-7	NA	± 30 %	AverageRF
Trichloroethene (TCE)	10	10	0.283	0.283	0	NA	± 30 %	AverageRF
1,2-Dichloropropane	10	9.8	0.282	0.276	-2	NA	± 30 %	AverageRF
Dibromomethane	10	8.9	0.172	0.154	-11	NA	± 30 %	AverageRF
Bromodichloromethane	10	9.2	0.394	0.361	-8	NA	± 30 %	AverageRF
2-Chloroethyl Vinyl Ether	10	9.9	0.161	0.160	-1	NA	± 30 %	AverageRF
cis-1,3-Dichloropropene	10	9.2	0.448	0.412	-8	NA	± 30 %	AverageRF
4-Methyl-2-pentanone (MIBK)	50	50	0.0843	0.0843	0	NA	± 30 %	AverageRF
Toluene	10	10	0.681	0.691	2	NA	± 30 %	AverageRF
trans-1,3-Dichloropropene	10	8.9	0.966	0.863	-11	NA	± 30 %	AverageRF
Ethyl Methacrylate	30	30	0.725	0.734	1	NA	± 30 %	AverageRF
1,1,2-Trichloroethane	10	8.9	0.520	0.464	-11	NA	± 30 %	AverageRF
Tetrachloroethene (PCE)	10	9.8	0.636	0.626	-2	NA	± 30 %	AverageRF
2-Hexanone	50	44	0.0673	0.0594	-12	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 05/08/2019
Date Analyzed: 05/08/2019

Second Source Calibration Verification
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration ID: CAL16042
Units: PPB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Dibromochloromethane	10	9.2	0.690	0.636	-8	NA	± 30 %	AverageRF
Chlorobenzene	10	9.9	1.81	1.79	-1	NA	± 30 %	AverageRF
Ethylbenzene	10	10	0.963	0.972	1	NA	± 30 %	AverageRF
1,1,1,2-Tetrachloroethane	10	9.6	0.664	0.635	-4	NA	± 30 %	AverageRF
m,p-Xylenes	20	21	1.15	1.20	4	NA	± 30 %	AverageRF
o-Xylene	10	10	1.11	1.13	2	NA	± 30 %	AverageRF
Bromoform	10	9.2	0.434	0.399	-8	NA	± 30 %	AverageRF
1,1,2,2-Tetrachloroethane	10	8.8	0.783	0.690	-12	NA	± 30 %	AverageRF
trans-1,4-Dichloro-2-butene	30	25	0.214	0.180	-16	NA	± 30 %	AverageRF
1,2,3-Trichloropropane	10	8.9	0.253	0.225	-11	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/2019

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration Date: 05/08/2019
Calibration ID: CAL16042
Analysis Lot: KWG1902691
Units: PPB

File ID: J:\MS46\DATA\061019\0610F008.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Dichlorodifluoromethane	10	8.0	0.100	0.323	0.259	-20	NA	± 20	AverageRF
Chloromethane	10	8.8	0.100	0.316	0.278	-12	NA	± 20	AverageRF
Vinyl Chloride	10	9.1	0.100	0.323	0.295	-9	NA	± 20	AverageRF
Bromomethane	10	11	0.100	0.164	0.175	6	NA	± 20	AverageRF
Chloroethane	10	9.5	0.100	0.189	0.179	-5	NA	± 20	AverageRF
Trichlorofluoromethane	10	8.5	0.100	0.421	0.357	-15	NA	± 20	AverageRF
Acrolein	200	170	0.01	0.0361	0.0308	-15	NA	± 20	AverageRF
1,1-Dichloroethene	10	9.5	0.100	0.210	0.200	-5	NA	± 20	AverageRF
Acetone	100	87	0.010	0.0674	0.0544	NA	-13	± 20	Linear(0,0)
Iodomethane	40	50	0.01	0.180	0.211	NA	24 *	± 20	Quadratic
Carbon Disulfide	10	9.3	0.100	0.702	0.654	-7	NA	± 20	AverageRF
3-Chloro-1-propene	10	10	0.01	0.122	0.122	0	NA	± 20	AverageRF
Acetonitrile	400	310	0.01	0.0114	0.00873 *	-24 *	NA	± 20	AverageRF
Methylene Chloride	10	9.9	0.100	0.268	0.266	-1	NA	± 20	AverageRF
Acrylonitrile	40	34	0.01	0.0715	0.0603	-16	NA	± 20	AverageRF
trans-1,2-Dichloroethene	10	9.2	0.100	0.258	0.237	-8	NA	± 20	AverageRF
1,1-Dichloroethane	10	9.8	0.200	0.456	0.445	-2	NA	± 20	AverageRF
Vinyl Acetate	20	16	0.01	0.0551	0.0438	-21 *	NA	± 20	AverageRF
cis-1,2-Dichloroethene	10	9.7	0.100	0.285	0.276	-3	NA	± 20	AverageRF
2-Butanone (MEK)	100	77	0.010	0.0244	0.0187	-23 *	NA	± 20	AverageRF
Methacrylonitrile	40	35	0.01	0.0877	0.0770	-12	NA	± 20	AverageRF
Chloroform	10	9.1	0.200	0.510	0.464	-9	NA	± 20	AverageRF
1,1,1-Trichloroethane (TCA)	10	8.7	0.100	0.408	0.353	-13	NA	± 20	AverageRF
Carbon Tetrachloride	10	8.6	0.100	0.352	0.303	-14	NA	± 20	AverageRF
Isobutyl Alcohol	400	250	0.01	0.00520	0.00323 *	-38 *	NA	± 20	AverageRF
Benzene	10	9.5	0.500	1.07	1.02	-5	NA	± 20	AverageRF
1,2-Dichloroethane (EDC)	10	9.5	0.100	0.379	0.361	-5	NA	± 20	AverageRF
Trichloroethene (TCE)	10	8.9	0.200	0.283	0.252	-11	NA	± 20	AverageRF
1,2-Dichloropropane	10	9.9	0.100	0.282	0.279	-1	NA	± 20	AverageRF
Dibromomethane	10	8.8	0.01	0.172	0.152	-12	NA	± 20	AverageRF
Bromodichloromethane	10	9.3	0.200	0.394	0.366	-7	NA	± 20	AverageRF
2-Chloroethyl Vinyl Ether	10	8.1	0.01	0.161	0.131	-19	NA	± 20	AverageRF
cis-1,3-Dichloropropene	10	9.4	0.200	0.448	0.420	-6	NA	± 20	AverageRF
4-Methyl-2-pentanone (MIBK)	100	78	0.010	0.0843	0.0659	-22 *	NA	± 20	AverageRF
Toluene	10	9.2	0.400	0.681	0.622	-9	NA	± 20	AverageRF
trans-1,3-Dichloropropene	10	9.3	0.100	0.966	0.898	-7	NA	± 20	AverageRF
Ethyl Methacrylate	10	8.3	0.01	0.725	0.599	-17	NA	± 20	AverageRF
1,1,2-Trichloroethane	10	9.3	0.100	0.520	0.483	-7	NA	± 20	AverageRF
Tetrachloroethene (PCE)	10	8.0	0.200	0.636	0.510	-20	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/10/2019

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C

Calibration Date: 05/08/2019
Calibration ID: CAL16042
Analysis Lot: KWG1902691
Units: PPB

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
2-Hexanone	100	77	0.015	0.0673	0.0520	-23 *	NA	± 20	AverageRF
Dibromochloromethane	10	9.0	0.100	0.690	0.623	-10	NA	± 20	AverageRF
Chlorobenzene	10	9.7	0.500	1.81	1.75	-3	NA	± 20	AverageRF
Ethylbenzene	10	9.3	0.100	0.963	0.897	-7	NA	± 20	AverageRF
1,1,1,2-Tetrachloroethane	10	9.6	0.01	0.664	0.634	-5	NA	± 20	AverageRF
m,p-Xylenes	20	19	0.100	1.15	1.07	-7	NA	± 20	AverageRF
o-Xylene	10	9.3	0.300	1.11	1.03	-7	NA	± 20	AverageRF
Bromoform	10	8.2	0.100	0.434	0.354	-18	NA	± 20	AverageRF
1,1,2,2-Tetrachloroethane	10	8.9	0.300	0.783	0.700	-11	NA	± 20	AverageRF
trans-1,4-Dichloro-2-butene	10	9.8	0.01	0.214	0.209	-2	NA	± 20	AverageRF
1,2,3-Trichloropropane	10	8.7	0.01	0.253	0.221	-13	NA	± 20	AverageRF
Dibromofluoromethane	10	10	0.01	0.251	0.252	0	NA	± 20	AverageRF
Toluene-d8	10	11	0.01	0.943	0.998	6	NA	± 20	AverageRF
4-Bromofluorobenzene	10	10	0.01	0.818	0.825	1	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Volatile Organic Compounds

Analysis Method: 8260C

Analysis Lot: KWG1902691
Instrument ID: MS46

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0610F006.D	GC/MS Tuning - Bromofluorobenzene	KWG1902691-1	6/10/2019	11:53		6/10/2019	11:56
0610F008.D	Continuing Calibration Verification	KWG1902691-2	6/10/2019	12:48		6/10/2019	13:04
0610F009.D	Lab Control Sample	KWG1902692-3	6/10/2019	13:15		6/10/2019	13:31
0610F010.D	CTMW-7-0619MS	KWG1902692-1	6/10/2019	13:43		6/10/2019	13:59
0610F011.D	CTMW-7-0619DMS	KWG1902692-2	6/10/2019	14:10		6/10/2019	14:26
0610F014.D	Method Blank	KWG1902692-4	6/10/2019	15:29		6/10/2019	15:45
0610F015.D	Trip Blank #1-0619	K1905207-001	6/10/2019	15:56		6/10/2019	16:12
0610F016.D	Trip Blank #2-0619	K1905207-006	6/10/2019	16:22		6/10/2019	16:38
0610F017.D	Field Blank#1-0619	K1905207-017	6/10/2019	16:49		6/10/2019	17:05
0610F018.D	CTMW-14-0619	K1905207-002	6/10/2019	17:15		6/10/2019	17:31
0610F019.D	CTMW-15-0619	K1905207-003	6/10/2019	17:42		6/10/2019	17:58
0610F020.D	CTMW-25D-0619	K1905207-004	6/10/2019	18:08		6/10/2019	18:24
0610F021.D	CTMW-20-0619	K1905207-005	6/10/2019	18:35		6/10/2019	18:51
0610F022.D	CTMW-5-0619	K1905207-008	6/10/2019	19:01		6/10/2019	19:17
0610F023.D	CTMW-18-0619	K1905207-009	6/10/2019	19:28		6/10/2019	19:44
0610F024.D	CTMW-7-0619	K1905207-011	6/10/2019	19:55		6/10/2019	20:11
0610F025.D	CTMW-9-7-0619	K1905207-012	6/10/2019	20:21		6/10/2019	20:37
0610F026.D	CTMW-8-0619	K1905207-013	6/10/2019	20:48		6/10/2019	21:04
0610F027.D	CTMW-9-0619	K1905207-014	6/10/2019	21:14		6/10/2019	21:30
0610F028.D	CTMW-17-0619	K1905207-015	6/10/2019	21:41		6/10/2019	21:57
0610F029.D	CTMW-17D-0619	K1905207-016	6/10/2019	22:08		6/10/2019	22:24
0610F030.D	CTMW-12-0619	K1905207-018	6/10/2019	22:34		6/10/2019	22:50
0610F031.D	CTMW-24D-0619	K1905207-019	6/10/2019	23:01		6/10/2019	23:17
0610F032.D	CTMW-24-0619	K1905207-020	6/10/2019	23:27		6/10/2019	23:43

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/10/2019

Extraction Prep Log
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Extraction Lot: KWG1902692
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Trip Blank #1-0619	K1905207-001	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-14-0619	K1905207-002	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-15-0619	K1905207-003	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-25D-0619	K1905207-004	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-20-0619	K1905207-005	06/04/19	06/05/19	10ml	10ml	NA	
Trip Blank #2-0619	K1905207-006	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-5-0619	K1905207-008	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-18-0619	K1905207-009	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-7-0619	K1905207-011	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-9-7-0619	K1905207-012	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-8-0619	K1905207-013	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-9-0619	K1905207-014	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-17-0619	K1905207-015	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-17D-0619	K1905207-016	06/05/19	06/06/19	10ml	10ml	NA	
Field Blank#1-0619	K1905207-017	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-12-0619	K1905207-018	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-24D-0619	K1905207-019	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-24-0619	K1905207-020	06/05/19	06/06/19	10ml	10ml	NA	
Method Blank	KWG1902692-4	NA	NA	10ml	10ml	NA	
CTMW-7-0619MS	KWG1902692-1	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-7-0619DMS	KWG1902692-2	06/05/19	06/06/19	10ml	10ml	NA	
Lab Control Sample	KWG1902692-3	NA	NA	10ml	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

**Cover Page - Organic Analysis Data Package
 Volatile Organic Compounds**

Sample Name	Lab Code	Date Collected	Date Received
Trip Blank #1-0619	K1905207-001	06/04/2019	06/05/2019
CTMW-14-0619	K1905207-002	06/04/2019	06/05/2019
CTMW-15-0619	K1905207-003	06/04/2019	06/05/2019
CTMW-25D-0619	K1905207-004	06/04/2019	06/05/2019
CTMW-20-0619	K1905207-005	06/04/2019	06/05/2019
Trip Blank #2-0619	K1905207-006	06/05/2019	06/06/2019
CTMW-5-0619	K1905207-008	06/05/2019	06/06/2019
CTMW-18-0619	K1905207-009	06/05/2019	06/06/2019
CTMW-7-0619	K1905207-011	06/05/2019	06/06/2019
CTMW-9-7-0619	K1905207-012	06/05/2019	06/06/2019
CTMW-8-0619	K1905207-013	06/05/2019	06/06/2019
CTMW-9-0619	K1905207-014	06/05/2019	06/06/2019
CTMW-17-0619	K1905207-015	06/05/2019	06/06/2019
CTMW-17D-0619	K1905207-016	06/05/2019	06/06/2019
Field Blank#1-0619	K1905207-017	06/05/2019	06/06/2019
CTMW-12-0619	K1905207-018	06/05/2019	06/06/2019
CTMW-24D-0619	K1905207-019	06/05/2019	06/06/2019
CTMW-24-0619	K1905207-020	06/05/2019	06/06/2019
CTMW-7-0619MS	KWG1902821-1	06/05/2019	06/06/2019
CTMW-7-0619DMS	KWG1902821-2	06/05/2019	06/06/2019

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: Trip Blank #1-0619
Lab Code: K1905207-001
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	88	77-123	06/14/19	Acceptable
Toluene-d8	83	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-14-0619
Lab Code: K1905207-002
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	95	77-123	06/14/19	Acceptable
Toluene-d8	84	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-15-0619
Lab Code: K1905207-003
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	6.1	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	98	77-123	06/14/19	Acceptable
Toluene-d8	83	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-25D-0619
Lab Code: K1905207-004
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	77-123	06/14/19	Acceptable
Toluene-d8	81	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	66	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/2019
Date Received: 06/05/2019

Volatile Organic Compounds

Sample Name: CTMW-20-0619
Lab Code: K1905207-005
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	19	J	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	16	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	93	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	79	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Trip Blank #2-0619
Lab Code: K1905207-006
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	97	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	69	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-5-0619
Lab Code: K1905207-008
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	8.9	J	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	6.0	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	94	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	77	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-18-0619
Lab Code: K1905207-009
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	20	J	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	25		20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	95	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	66	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	93	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	67	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	74	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-8-0619
Lab Code: K1905207-013
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	6.0	J	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	6.4	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	98	77-123	06/14/19	Acceptable
Toluene-d8	84	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-9-0619
Lab Code: K1905207-014
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	77-123	06/14/19	Acceptable
Toluene-d8	81	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	66	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17-0619
Lab Code: K1905207-015
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	160		20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	8.7	J	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	6.8	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	93	77-123	06/14/19	Acceptable
Toluene-d8	81	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-17D-0619
Lab Code: K1905207-016
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	87	77-123	06/14/19	Acceptable
Toluene-d8	74	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	64	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: Field Blank#1-0619
Lab Code: K1905207-017
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	5.9	J	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	100	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	63	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-12-0619
Lab Code: K1905207-018
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	96	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	65	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24D-0619
Lab Code: K1905207-019
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/18/19	06/18/19	KWG1902876	
1,1-Dichloroethene	ND	U	20	5.9	1	06/18/19	06/18/19	KWG1902876	
Carbon Tetrachloride	ND	U	20	7.2	1	06/18/19	06/18/19	KWG1902876	
1,2-Dichloroethane	ND	U	20	5.8	1	06/18/19	06/18/19	KWG1902876	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/18/19	06/18/19	KWG1902876	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	113	77-123	06/18/19	Acceptable
Toluene-d8	99	74-112	06/18/19	Acceptable
4-Bromofluorobenzene	95	46-118	06/18/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/2019
Date Received: 06/06/2019

Volatile Organic Compounds

Sample Name: CTMW-24-0619
Lab Code: K1905207-020
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/18/19	06/18/19	KWG1902876	
1,1-Dichloroethene	ND	U	20	5.9	1	06/18/19	06/18/19	KWG1902876	
Carbon Tetrachloride	ND	U	20	7.2	1	06/18/19	06/18/19	KWG1902876	
1,2-Dichloroethane	ND	U	20	5.8	1	06/18/19	06/18/19	KWG1902876	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/18/19	06/18/19	KWG1902876	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	118	77-123	06/18/19	Acceptable
Toluene-d8	99	74-112	06/18/19	Acceptable
4-Bromofluorobenzene	94	46-118	06/18/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902821-4
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/14/19	06/14/19	KWG1902821	
1,1-Dichloroethene	ND	U	20	5.9	1	06/14/19	06/14/19	KWG1902821	
Carbon Tetrachloride	ND	U	20	7.2	1	06/14/19	06/14/19	KWG1902821	
1,2-Dichloroethane	ND	U	20	5.8	1	06/14/19	06/14/19	KWG1902821	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/14/19	06/14/19	KWG1902821	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	82	77-123	06/14/19	Acceptable
Toluene-d8	82	74-112	06/14/19	Acceptable
4-Bromofluorobenzene	66	46-118	06/14/19	Acceptable

Comments: _____

Analytical Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902876-3
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Vinyl Chloride	ND	U	20	4.6	1	06/18/19	06/18/19	KWG1902876	
1,1-Dichloroethene	ND	U	20	5.9	1	06/18/19	06/18/19	KWG1902876	
Carbon Tetrachloride	ND	U	20	7.2	1	06/18/19	06/18/19	KWG1902876	
1,2-Dichloroethane	ND	U	20	5.8	1	06/18/19	06/18/19	KWG1902876	
1,1,2,2-Tetrachloroethane	ND	U	20	8.7	1	06/18/19	06/18/19	KWG1902876	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	79	77-123	06/18/19	Acceptable
Toluene-d8	99	74-112	06/18/19	Acceptable
4-Bromofluorobenzene	94	46-118	06/18/19	Acceptable

Comments: _____

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

**Surrogate Recovery Summary
 Volatile Organic Compounds**

Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>
Trip Blank #1-0619	K1905207-001	88	83	65
CTMW-14-0619	K1905207-002	95	84	65
CTMW-15-0619	K1905207-003	98	83	65
CTMW-25D-0619	K1905207-004	91	81	66
CTMW-20-0619	K1905207-005	93	82	79
Trip Blank #2-0619	K1905207-006	97	82	69
CTMW-5-0619	K1905207-008	94	82	77
CTMW-18-0619	K1905207-009	95	82	66
CTMW-7-0619	K1905207-011	93	82	67
CTMW-9-7-0619	K1905207-012	91	82	74
CTMW-8-0619	K1905207-013	98	84	65
CTMW-9-0619	K1905207-014	91	81	66
CTMW-17-0619	K1905207-015	93	81	65
CTMW-17D-0619	K1905207-016	87	74	64
Field Blank#1-0619	K1905207-017	100	82	63
CTMW-12-0619	K1905207-018	96	82	65
CTMW-24D-0619	K1905207-019	113	99	95
CTMW-24-0619	K1905207-020	118	99	94
Method Blank	KWG1902821-4	82	82	66
Method Blank	KWG1902876-3	79	99	94
CTMW-7-0619MS	KWG1902821-1	80	82	73
CTMW-7-0619DMS	KWG1902821-2	82	82	72
Lab Control Sample	KWG1902821-3	85	80	70
Lab Control Sample	KWG1902876-1	96	106	99
Duplicate Lab Control Sample	KWG1902876-2	107	105	101

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane	77-123
Sur2 = Toluene-d8	74-112
Sur3 = 4-Bromofluorobenzene	46-118

Results flagged with an asterisk (*) indicate values outside control criteria.
 Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/14/2019
Time Analyzed: 11:00

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS27\DATA\061419_SIM\0614F005.D
Instrument ID: MS27
Analysis Method: 8260C SIM

Lab Code: KWG1902820-2
Analysis Lot: KWG1902820

	Fluorobenzene		Chlorobenzene-d5	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
Results ==>	83,653	6.36	64,171	9.55
Upper Limit ==>	167,306	6.53	128,342	9.72
Lower Limit ==>	41,827	6.19	32,086	9.38
ICAL Result ==>	74,076	6.37	53,593	9.56

Associated Analyses

Lab Control Sample	KWG1902821-3	80,546	6.36	58,410	9.55
CTMW-7-0619MS	KWG1902821-1	77,406	6.37	57,389	9.56
CTMW-7-0619DMS	KWG1902821-2	77,235	6.37	57,709	9.55
Method Blank	KWG1902821-4	67,483	6.37	50,014	9.56
Trip Blank #1-0619	K1905207-001	69,254	6.37	51,437	9.56
Trip Blank #2-0619	K1905207-006	66,285	6.37	49,950	9.56
CTMW-14-0619	K1905207-002	66,290	6.37	49,768	9.56
CTMW-15-0619	K1905207-003	65,285	6.37	48,378	9.56
CTMW-25D-0619	K1905207-004	68,735	6.37	50,015	9.56
CTMW-20-0619	K1905207-005	67,255	6.37	48,709	9.56
CTMW-5-0619	K1905207-008	65,592	6.37	48,522	9.56
CTMW-18-0619	K1905207-009	66,575	6.36	49,404	9.56
CTMW-7-0619	K1905207-011	65,778	6.37	48,526	9.56
CTMW-9-7-0619	K1905207-012	65,667	6.37	48,445	9.55
CTMW-8-0619	K1905207-013	65,695	6.37	48,562	9.55
CTMW-9-0619	K1905207-014	65,116	6.37	48,150	9.56
CTMW-17-0619	K1905207-015	70,438	6.36	50,912	9.55
CTMW-17D-0619	K1905207-016	72,112	6.37	48,503	9.55
Field Blank#1-0619	K1905207-017	63,955	6.37	45,904	9.56
CTMW-12-0619	K1905207-018	61,920	6.37	45,563	9.56

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/18/2019
Time Analyzed: 12:49

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS30\DATA\061819Z\0618F009.D
Instrument ID: MS30
Analysis Method: 8260C SIM

Lab Code: KWG1902877-2
Analysis Lot: KWG1902877

	Fluorobenzene		Chlorobenzene-d5	
	<u>Area</u>	<u>RT</u>	<u>Area</u>	<u>RT</u>
Results ==>	54,343	6.52	40,964	9.69
Upper Limit ==>	108,686	6.69	81,928	9.86
Lower Limit ==>	27,172	6.35	20,482	9.52
ICAL Result ==>	54,343	6.52	40,964	9.69

Associated Analyses

Lab Control Sample	KWG1902876-1	54,206	6.52	41,747	9.69
Duplicate Lab Control Sample	KWG1902876-2	54,675	6.52	42,407	9.69
Method Blank	KWG1902876-3	54,773	6.52	40,659	9.69
CTMW-24D-0619	K1905207-019	53,297	6.52	40,527	9.69
CTMW-24-0619	K1905207-020	51,166	6.52	38,444	9.69

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/14/2019
Date Analyzed: 06/14/2019

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1902821

Analyte Name	Sample Result	CTMW-7-0619MS KWG1902821-1 Matrix Spike			CTMW-7-0619DMS KWG1902821-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Vinyl Chloride	ND	2110	2000	106	2020	2000	101	70-130	4	30
1,1-Dichloroethene	ND	2100	2000	105	2000	2000	100	70-130	5	30
Carbon Tetrachloride	ND	2070	2000	103	1990	2000	100	70-130	4	30
1,2-Dichloroethane	ND	2040	2000	102	1980	2000	99	70-130	3	30
1,1,2,2-Tetrachloroethane	ND	2050	2000	102	2050	2000	103	70-130	0	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/14/2019
Date Analyzed: 06/14/2019

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1902821

Lab Control Sample
 KWG1902821-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Vinyl Chloride	1880	2000	94	70-136
1,1-Dichloroethene	1870	2000	94	75-133
Carbon Tetrachloride	1900	2000	95	71-141
1,2-Dichloroethane	1900	2000	95	75-124
1,1,2,2-Tetrachloroethane	1970	2000	98	70-128

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/18/2019
Date Analyzed: 06/18/2019

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1902876

Analyte Name	Lab Control Sample KWG1902876-1 Lab Control Spike			Duplicate Lab Control Sample KWG1902876-2 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Vinyl Chloride	2390	2000	119	2190	2000	110	70-136	8	30
1,1-Dichloroethene	2150	2000	107	1990	2000	99	75-133	8	30
Carbon Tetrachloride	2300	2000	115	2100	2000	105	71-141	9	30
1,2-Dichloroethane	2100	2000	105	1960	2000	98	75-124	7	30
1,1,2,2-Tetrachloroethane	2100	2000	105	1910	2000	96	70-128	9	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/14/2019
Date Analyzed: 06/14/2019
Time Analyzed: 13:21

Method Blank Summary
Volatile Organic Compounds

Sample Name: Method Blank **Instrument ID:** MS27
Lab Code: KWG1902821-4 **File ID:** J:\MS27\DATA\061419_SIM\0614F011.D
Extraction Method: EPA 5030B **Level:** Low
Analysis Method: 8260C SIM **Extraction Lot:** KWG1902821

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1902821-3	J:\MS27\DATA\061419_SIM\0614F006.D	06/14/19	11:34
CTMW-7-0619MS	KWG1902821-1	J:\MS27\DATA\061419_SIM\0614F007.D	06/14/19	11:55
CTMW-7-0619DMS	KWG1902821-2	J:\MS27\DATA\061419_SIM\0614F008.D	06/14/19	12:17
Trip Blank #1-0619	K1905207-001	J:\MS27\DATA\061419_SIM\0614F012.D	06/14/19	13:42
Trip Blank #2-0619	K1905207-006	J:\MS27\DATA\061419_SIM\0614F013.D	06/14/19	14:04
CTMW-14-0619	K1905207-002	J:\MS27\DATA\061419_SIM\0614F014.D	06/14/19	14:25
CTMW-15-0619	K1905207-003	J:\MS27\DATA\061419_SIM\0614F015.D	06/14/19	14:47
CTMW-25D-0619	K1905207-004	J:\MS27\DATA\061419_SIM\0614F016.D	06/14/19	15:08
CTMW-20-0619	K1905207-005	J:\MS27\DATA\061419_SIM\0614F017.D	06/14/19	15:30
CTMW-5-0619	K1905207-008	J:\MS27\DATA\061419_SIM\0614F018.D	06/14/19	15:51
CTMW-18-0619	K1905207-009	J:\MS27\DATA\061419_SIM\0614F019.D	06/14/19	16:12
CTMW-7-0619	K1905207-011	J:\MS27\DATA\061419_SIM\0614F020.D	06/14/19	16:34
CTMW-9-7-0619	K1905207-012	J:\MS27\DATA\061419_SIM\0614F021.D	06/14/19	16:55
CTMW-8-0619	K1905207-013	J:\MS27\DATA\061419_SIM\0614F022.D	06/14/19	17:17
CTMW-9-0619	K1905207-014	J:\MS27\DATA\061419_SIM\0614F023.D	06/14/19	17:38
CTMW-17-0619	K1905207-015	J:\MS27\DATA\061419_SIM\0614F024.D	06/14/19	18:43
CTMW-17D-0619	K1905207-016	J:\MS27\DATA\061419_SIM\0614F025.D	06/14/19	19:04
Field Blank#1-0619	K1905207-017	J:\MS27\DATA\061419_SIM\0614F026.D	06/14/19	19:26
CTMW-12-0619	K1905207-018	J:\MS27\DATA\061419_SIM\0614F027.D	06/14/19	19:47

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/18/2019
Date Analyzed: 06/18/2019
Time Analyzed: 19:10

Method Blank Summary
Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1902876-3
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Instrument ID: MS30
File ID: J:\MS30\DATA\061819Z\0618F023.D
Level: Low
Extraction Lot: KWG1902876

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1902876-1	J:\MS30\DATA\061819Z\0618F020.D	06/18/19	17:53
Duplicate Lab Control Sample	KWG1902876-2	J:\MS30\DATA\061819Z\0618F021.D	06/18/19	18:19
CTMW-24D-0619	K1905207-019	J:\MS30\DATA\061819Z\0618F024.D	06/18/19	19:35
CTMW-24-0619	K1905207-020	J:\MS30\DATA\061819Z\0618F025.D	06/18/19	20:01

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/18/2019
Date Analyzed: 06/18/2019
Time Analyzed: 17:53

Lab Control Sample Summary
Volatile Organic Compounds

Sample Name: Lab Control Sample
Lab Code: KWG1902876-1
Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Instrument ID: MS30
File ID: J:\MS30\DATA\061819Z\0618F020.D
Level: Low
Extraction Lot: KWG1902876

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1902876-3	J:\MS30\DATA\061819Z\0618F023.D	06/18/19	19:10
CTMW-24D-0619	K1905207-019	J:\MS30\DATA\061819Z\0618F024.D	06/18/19	19:35
CTMW-24-0619	K1905207-020	J:\MS30\DATA\061819Z\0618F025.D	06/18/19	20:01

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/14/2019
Time Analyzed: 10:34

Tune Summary
Volatile Organic Compounds

File ID: J:\MS27\DATA\061419_SIM\0614F004.D
Instrument ID: MS27
Column:

Analysis Method: 8260C SIM
Analysis Lot: KWG1902820

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	20.0	17208	PASS
75	95	30	60	50.2	43184	PASS
95	95	100	100	100.0	85965	PASS
96	95	5	9	6.5	5609	PASS
173	174	0	2	0.9	757	PASS
174	95	50	120	93.3	80208	PASS
175	174	5	9	6.7	5390	PASS
176	174	95	101	97.0	77818	PASS
177	176	5	9	6.0	4654	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1902820-2	J:\MS27\DATA\061419_SIM\0614F005.D	06/14/2019	11:00	
Lab Control Sample	KWG1902821-3	J:\MS27\DATA\061419_SIM\0614F006.D	06/14/2019	11:34	
CTMW-7-0619MS	KWG1902821-1	J:\MS27\DATA\061419_SIM\0614F007.D	06/14/2019	11:55	
CTMW-7-0619DMS	KWG1902821-2	J:\MS27\DATA\061419_SIM\0614F008.D	06/14/2019	12:17	
Method Blank	KWG1902821-4	J:\MS27\DATA\061419_SIM\0614F011.D	06/14/2019	13:21	
Trip Blank #1-0619	K1905207-001	J:\MS27\DATA\061419_SIM\0614F012.D	06/14/2019	13:42	
Trip Blank #2-0619	K1905207-006	J:\MS27\DATA\061419_SIM\0614F013.D	06/14/2019	14:04	
CTMW-14-0619	K1905207-002	J:\MS27\DATA\061419_SIM\0614F014.D	06/14/2019	14:25	
CTMW-15-0619	K1905207-003	J:\MS27\DATA\061419_SIM\0614F015.D	06/14/2019	14:47	
CTMW-25D-0619	K1905207-004	J:\MS27\DATA\061419_SIM\0614F016.D	06/14/2019	15:08	
CTMW-20-0619	K1905207-005	J:\MS27\DATA\061419_SIM\0614F017.D	06/14/2019	15:30	
CTMW-5-0619	K1905207-008	J:\MS27\DATA\061419_SIM\0614F018.D	06/14/2019	15:51	
CTMW-18-0619	K1905207-009	J:\MS27\DATA\061419_SIM\0614F019.D	06/14/2019	16:12	
CTMW-7-0619	K1905207-011	J:\MS27\DATA\061419_SIM\0614F020.D	06/14/2019	16:34	
CTMW-9-7-0619	K1905207-012	J:\MS27\DATA\061419_SIM\0614F021.D	06/14/2019	16:55	
CTMW-8-0619	K1905207-013	J:\MS27\DATA\061419_SIM\0614F022.D	06/14/2019	17:17	
CTMW-9-0619	K1905207-014	J:\MS27\DATA\061419_SIM\0614F023.D	06/14/2019	17:38	
CTMW-17-0619	K1905207-015	J:\MS27\DATA\061419_SIM\0614F024.D	06/14/2019	18:43	
CTMW-17D-0619	K1905207-016	J:\MS27\DATA\061419_SIM\0614F025.D	06/14/2019	19:04	
Field Blank#1-0619	K1905207-017	J:\MS27\DATA\061419_SIM\0614F026.D	06/14/2019	19:26	
CTMW-12-0619	K1905207-018	J:\MS27\DATA\061419_SIM\0614F027.D	06/14/2019	19:47	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/18/2019
Time Analyzed: 10:44

Tune Summary
Volatile Organic Compounds

File ID: J:\MS30\DATA\061819Z\0618F004.D
Instrument ID: MS30
Column:

Analysis Method: 8260C SIM
Analysis Lot: KWG1902877

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	16.4	6680	PASS
75	95	30	60	47.5	19392	PASS
95	95	100	100	100.0	40834	PASS
96	95	5	9	7.0	2850	PASS
173	174	0	2	1.1	479	PASS
174	95	50	120	108.3	44242	PASS
175	174	5	9	7.4	3288	PASS
176	174	95	101	96.5	42693	PASS
177	176	5	9	6.3	2685	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1902877-2	J:\MS30\DATA\061819Z\0618F009.D	06/18/2019	12:49	
Lab Control Sample	KWG1902876-1	J:\MS30\DATA\061819Z\0618F020.D	06/18/2019	17:53	
Duplicate Lab Control Sample	KWG1902876-2	J:\MS30\DATA\061819Z\0618F021.D	06/18/2019	18:19	
Method Blank	KWG1902876-3	J:\MS30\DATA\061819Z\0618F023.D	06/18/2019	19:10	
CTMW-24D-0619	K1905207-019	J:\MS30\DATA\061819Z\0618F024.D	06/18/2019	19:35	
CTMW-24-0619	K1905207-020	J:\MS30\DATA\061819Z\0618F025.D	06/18/2019	20:01	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 03/29/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL15996
Instrument ID: MS27

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS27\DATA\032919_SIM\0329F018.D	G	J:\MS27\DATA\032919_SIM\0329F031.D
B	J:\MS27\DATA\032919_SIM\0329F025.D	H	J:\MS27\DATA\032919_SIM\0329F032.D
C	J:\MS27\DATA\032919_SIM\0329F027.D	I	J:\MS27\DATA\032919_SIM\0329F033.D
D	J:\MS27\DATA\032919_SIM\0329F028.D	J	J:\MS27\DATA\032919_SIM\0329F034.D
E	J:\MS27\DATA\032919_SIM\0329F029.D	K	J:\MS27\DATA\032919_SIM\0329F035.D
F	J:\MS27\DATA\032919_SIM\0329F030.D		

Analyte Name	Level ID			Level ID			Level ID			Level ID			Level ID		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Vinyl Chloride	A	10	0.497	B	5.0	0.535	C	20	0.428	D	50	0.398	E	100	0.392
	F	500	0.381	G	1000	0.449	H	2000	0.432	I	5000	0.380	J	7000	0.307
	K	10000	0.381												
1,1-Dichloroethene	A	10	0.344				C	20	0.329	D	50	0.293	E	100	0.273
	F	500	0.266	G	1000	0.315	H	2000	0.304	I	5000	0.270	J	7000	0.220
	K	10000	0.274												
Carbon Tetrachloride	A	10	0.515	B	5.0	0.427	C	20	0.448	D	50	0.419	E	100	0.409
	F	500	0.402	G	1000	0.467	H	2000	0.449	I	5000	0.403	J	7000	0.325
	K	10000	0.410												
1,2-Dichloroethane	A	10	0.495	B	5.0	0.392	C	20	0.411	D	50	0.409	E	100	0.402
	F	500	0.378	G	1000	0.436	H	2000	0.423	I	5000	0.380	J	7000	0.379
	K	10000	0.395												
1,1,2,2-Tetrachloroethane	A	10	0.395	B	5.0	0.380	C	20	0.333	D	50	0.359	E	100	0.357
	F	500	0.326	G	1000	0.376	H	2000	0.379	I	5000	0.344	J	7000	0.350
	K	10000	0.365												
Dibromofluoromethane										D	200	0.272	E	400	0.266
	F	600	0.234	G	800	0.261	H	1000	0.269	I	2000	0.253	J	2400	0.262
	K	4000	0.281												
Toluene-d8													E	400	0.867
	F	600	0.745	G	800	0.883	H	1000	0.929	I	2000	0.844	J	2400	0.888
	K	4000	0.982												
4-Bromofluorobenzene										D	200	0.447	E	400	0.493
	F	600	0.389	G	800	0.430	H	1000	0.456	I	2000	0.493	J	2400	0.472
	K	4000	0.517												

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 03/29/2019

Initial Calibration Summary
Volatile Organic Compounds

Calibration ID: CAL15996
Instrument ID: MS27

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Vinyl Chloride	MS	AverageRF	% RSD	14.9		≤20	0.416		0.1
1,1-Dichloroethene	MS	AverageRF	% RSD	12.5		≤20	0.289		0.1
Carbon Tetrachloride	MS	AverageRF	% RSD	11.2		≤20	0.425		0.1
1,2-Dichloroethane	MS	AverageRF	% RSD	8.3		≤20	0.409		0.1
1,1,2,2-Tetrachloroethane	MS	AverageRF	% RSD	5.9		≤20	0.360		0.3
Dibromofluoromethane	SURR	AverageRF	% RSD	5.3		≤20	0.262		0.01
Toluene-d8	SURR	AverageRF	% RSD	8.4		≤20	0.877		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	8.8		≤20	0.462		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 03/29/2019
Date Analyzed: 03/30/2019

Second Source Calibration Verification
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C SIM

Calibration ID: CAL15996
Units: ng/L

File ID: J:\MS27\DATA\033019_SIM\0330F007.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	2000	1900	0.416	0.388	-7	NA	± 30 %	AverageRF
1,1-Dichloroethene	2000	1700	0.289	0.249	-14	NA	± 30 %	AverageRF
Carbon Tetrachloride	2000	1800	0.425	0.391	-8	NA	± 30 %	AverageRF
1,2-Dichloroethane	2000	1700	0.409	0.351	-14	NA	± 30 %	AverageRF
1,1,2,2-Tetrachloroethane	2000	1700	0.360	0.308	-15	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 06/18/2019

**Initial Calibration Summary
 Volatile Organic Compounds**

Calibration ID: CAL16072
Instrument ID: MS30

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS30\DATA\061819_SIM\0618F006.D	G	J:\MS30\DATA\061819_SIM\0618F014.D
B	J:\MS30\DATA\061819_SIM\0618F007.D	H	J:\MS30\DATA\061819_SIM\0618F015.D
C	J:\MS30\DATA\061819_SIM\0618F009.D	I	J:\MS30\DATA\061819_SIM\0618F016.D
D	J:\MS30\DATA\061819_SIM\0618F011.D	J	J:\MS30\DATA\061819_SIM\0618F017.D
E	J:\MS30\DATA\061819_SIM\0618F012.D	K	J:\MS30\DATA\061819_SIM\0618F018.D
F	J:\MS30\DATA\061819_SIM\0618F013.D		

Analyte Name	Level			Level			Level			Level			Level		
	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Vinyl Chloride	A	10000	0.256	B	7000	0.292	C	2000	0.222	D	500	0.282	E	100	0.252
	F	50	0.238	G	20	0.312	H	10	0.317	I	5.0	0.252	J	1000	0.322
	K	5000	0.294												
1,1-Dichloroethene	A	10000	0.182	B	7000	0.209	C	2000	0.161	D	500	0.200	E	100	0.182
	F	50	0.170	G	20	0.201	H	10	0.214	I	5.0	0.237	J	1000	0.225
	K	5000	0.207												
Carbon Tetrachloride	A	10000	0.272	B	7000	0.308	C	2000	0.233	D	500	0.279	E	100	0.248
	F	50	0.215	G	20	0.270	H	10	0.296	I	5.0	0.316	J	1000	0.322
	K	5000	0.305												
1,2-Dichloroethane	A	10000	0.246	B	7000	0.253	C	2000	0.246	D	500	0.244	E	100	0.254
	F	50	0.242	G	20	0.291							J	1000	0.274
	K	5000	0.261												
1,1,2,2-Tetrachloroethane	A	10000	0.290	B	7000	0.286	C	2000	0.270	D	500	0.257	E	100	0.278
	F	50	0.277	G	20	0.285	H	10	0.230				J	1000	0.289
	K	5000	0.290												
Dibromofluoromethane	A	1000	0.200	B	1000	0.198	C	1000	0.189	D	1000	0.170	E	1000	0.161
	F	1000	0.181	G	1000	0.199	H	1000	0.170	I	1000	0.183	J	1000	0.192
	K	1000	0.190												
Toluene-d8	A	1000	0.768	B	1000	0.767	C	1000	0.765	D	1000	0.770	E	1000	0.765
	F	1000	0.758	G	1000	0.760	H	1000	0.759	I	1000	0.754	J	1000	0.763
	K	1000	0.764												
4-Bromofluorobenzene	A	1000	0.350	B	1000	0.345	C	1000	0.333	D	1000	0.321	E	1000	0.317
	F	1000	0.312	G	1000	0.314	H	1000	0.314	I	1000	0.313	J	1000	0.322
	K	1000	0.352												

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 06/18/2019

**Initial Calibration Summary
 Volatile Organic Compounds**

Calibration ID: CAL16072
Instrument ID: MS30

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Vinyl Chloride	MS	AverageRF	% RSD	12.3		≤20	0.276		0.1
1,1-Dichloroethene	MS	AverageRF	% RSD	11.7		≤20	0.199		0.1
Carbon Tetrachloride	MS	AverageRF	% RSD	12.6		≤20	0.279		0.1
1,2-Dichloroethane	MS	AverageRF	% RSD	6.3		≤20	0.257		0.1
1,1,2,2-Tetrachloroethane	MS	AverageRF	% RSD	6.9		≤20	0.275	*	0.3
Dibromofluoromethane	SURR	AverageRF	% RSD	7.1		≤20	0.185		0.01
Toluene-d8	SURR	AverageRF	% RSD	0.6		≤20	0.763		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	4.8		≤20	0.327		0.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Calibration Date: 06/18/2019
Date Analyzed: 06/18/2019

Second Source Calibration Verification
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C SIM

Calibration ID: CAL16072
Units: ng/L

File ID: J:\MS30\DATA\061819_SIM\0618F020.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	2000	2400	0.276	0.330	19	NA	± 30 %	AverageRF
1,1-Dichloroethene	2000	2100	0.199	0.214	7	NA	± 30 %	AverageRF
Carbon Tetrachloride	2000	2300	0.279	0.320	15	NA	± 30 %	AverageRF
1,2-Dichloroethane	2000	2100	0.257	0.270	5	NA	± 30 %	AverageRF
1,1,2,2-Tetrachloroethane	2000	2100	0.275	0.289	5	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/14/2019

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C SIM

Calibration Date: 03/29/2019
Calibration ID: CAL15996
Analysis Lot: KWG1902820
Units: ng/L

File ID: J:\MS27\DATA\061419_SIM\0614F005.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	2000	2000	0.1	0.416	0.409	-2	NA	± 20	AverageRF
1,1-Dichloroethene	2000	2000	0.1	0.289	0.284	-2	NA	± 20	AverageRF
Carbon Tetrachloride	2000	2000	0.1	0.425	0.421	-1	NA	± 20	AverageRF
1,2-Dichloroethane	2000	1900	0.1	0.409	0.392	-4	NA	± 20	AverageRF
1,1,2,2-Tetrachloroethane	2000	1900	0.3	0.360	0.338	-6	NA	± 20	AverageRF
Dibromofluoromethane	1000	860	0.01	0.262	0.226	-14	NA	± 20	AverageRF
Toluene-d8	1000	820	0.01	0.877	0.717	-18	NA	± 20	AverageRF
4-Bromofluorobenzene	1000	810	0.01	0.462	0.374	-19	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/18/2019

Continuing Calibration Verification Summary
Volatile Organic Compounds

Calibration Type: Internal Standard
Analysis Method: 8260C SIM

Calibration Date: 06/18/2019
Calibration ID: CAL16072
Analysis Lot: KWG1902877
Units: ng/L

File ID: J:\MS30\DATA\061819Z\0618F009.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	2000	1600	0.1	0.276	0.222	-20	NA	± 20	AverageRF
1,1-Dichloroethene	2000	1600	0.1	0.199	0.161	-19	NA	± 20	AverageRF
Carbon Tetrachloride	2000	1700	0.1	0.279	0.233	-16	NA	± 20	AverageRF
1,2-Dichloroethane	2000	1900	0.1	0.257	0.246	-4	NA	± 20	AverageRF
1,1,2,2-Tetrachloroethane	2000	2000	0.3	0.275	0.270 *	-2	NA	± 20	AverageRF
Dibromofluoromethane	1000	1000	0.01	0.185	0.189	2	NA	± 20	AverageRF
Toluene-d8	1000	1000	0.01	0.763	0.765	0	NA	± 20	AverageRF
4-Bromofluorobenzene	1000	1000	0.01	0.327	0.333	2	NA	± 20	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Volatile Organic Compounds

Analysis Method: 8260C SIM

Analysis Lot: KWG1902820
Instrument ID: MS27

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0614F004.D	GC/MS Tuning - Bromofluorobenzene	KWG1902820-1	6/14/2019	10:34		6/14/2019	10:37
0614F005.D	Continuing Calibration Verification	KWG1902820-2	6/14/2019	11:00		6/14/2019	11:15
0614F006.D	Lab Control Sample	KWG1902821-3	6/14/2019	11:34		6/14/2019	11:49
0614F007.D	CTMW-7-0619MS	KWG1902821-1	6/14/2019	11:55		6/14/2019	12:10
0614F008.D	CTMW-7-0619DMS	KWG1902821-2	6/14/2019	12:17		6/14/2019	12:32
0614F011.D	Method Blank	KWG1902821-4	6/14/2019	13:21		6/14/2019	13:36
0614F012.D	Trip Blank #1-0619	K1905207-001	6/14/2019	13:42		6/14/2019	13:57
0614F013.D	Trip Blank #2-0619	K1905207-006	6/14/2019	14:04		6/14/2019	14:19
0614F014.D	CTMW-14-0619	K1905207-002	6/14/2019	14:25		6/14/2019	14:40
0614F015.D	CTMW-15-0619	K1905207-003	6/14/2019	14:47		6/14/2019	15:02
0614F016.D	CTMW-25D-0619	K1905207-004	6/14/2019	15:08		6/14/2019	15:23
0614F017.D	CTMW-20-0619	K1905207-005	6/14/2019	15:30		6/14/2019	15:45
0614F018.D	CTMW-5-0619	K1905207-008	6/14/2019	15:51		6/14/2019	16:06
0614F019.D	CTMW-18-0619	K1905207-009	6/14/2019	16:12		6/14/2019	16:27
0614F020.D	CTMW-7-0619	K1905207-011	6/14/2019	16:34		6/14/2019	16:49
0614F021.D	CTMW-9-7-0619	K1905207-012	6/14/2019	16:55		6/14/2019	17:10
0614F022.D	CTMW-8-0619	K1905207-013	6/14/2019	17:17		6/14/2019	17:32
0614F023.D	CTMW-9-0619	K1905207-014	6/14/2019	17:38		6/14/2019	17:53
0614F024.D	CTMW-17-0619	K1905207-015	6/14/2019	18:43		6/14/2019	18:58
0614F025.D	CTMW-17D-0619	K1905207-016	6/14/2019	19:04		6/14/2019	19:19
0614F026.D	Field Blank#1-0619	K1905207-017	6/14/2019	19:26		6/14/2019	19:41
0614F027.D	CTMW-12-0619	K1905207-018	6/14/2019	19:47		6/14/2019	20:02
0614F028.D	ZZZZZZ	ZZZZZZ	6/15/2019	09:41		6/15/2019	09:56
0614F029.D	ZZZZZZ	ZZZZZZ	6/15/2019	10:02		6/15/2019	10:17

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
Volatile Organic Compounds

Analysis Method: 8260C SIM

Analysis Lot: KWG1902877
Instrument ID: MS30

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0618F004.D	GC/MS Tuning - Bromofluorobenzene	KWG1902877-1	6/18/2019	10:44		6/18/2019	10:47
0618F009.D	Continuing Calibration Verification	KWG1902877-2	6/18/2019	12:49		6/18/2019	13:04
0618F020.D	Lab Control Sample	KWG1902876-1	6/18/2019	17:53		6/18/2019	18:08
0618F021.D	Duplicate Lab Control Sample	KWG1902876-2	6/18/2019	18:19		6/18/2019	18:34
0618F023.D	Method Blank	KWG1902876-3	6/18/2019	19:10		6/18/2019	19:25
0618F024.D	CTMW-24D-0619	K1905207-019	6/18/2019	19:35		6/18/2019	19:50
0618F025.D	CTMW-24-0619	K1905207-020	6/18/2019	20:01		6/18/2019	20:16

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/14/2019

Extraction Prep Log
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Extraction Lot: KWG1902821
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Trip Blank #1-0619	K1905207-001	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-14-0619	K1905207-002	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-15-0619	K1905207-003	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-25D-0619	K1905207-004	06/04/19	06/05/19	10ml	10ml	NA	
CTMW-20-0619	K1905207-005	06/04/19	06/05/19	10ml	10ml	NA	
Trip Blank #2-0619	K1905207-006	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-5-0619	K1905207-008	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-18-0619	K1905207-009	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-7-0619	K1905207-011	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-9-7-0619	K1905207-012	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-8-0619	K1905207-013	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-9-0619	K1905207-014	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-17-0619	K1905207-015	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-17D-0619	K1905207-016	06/05/19	06/06/19	10ml	10ml	NA	
Field Blank#1-0619	K1905207-017	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-12-0619	K1905207-018	06/05/19	06/06/19	10ml	10ml	NA	
Method Blank	KWG1902821-4	NA	NA	10ml	10ml	NA	
CTMW-7-0619MS	KWG1902821-1	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-7-0619DMS	KWG1902821-2	06/05/19	06/06/19	10ml	10ml	NA	
Lab Control Sample	KWG1902821-3	NA	NA	10ml	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Extracted: 06/18/2019

Extraction Prep Log
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C SIM

Extraction Lot: KWG1902876
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CTMW-24D-0619	K1905207-019	06/05/19	06/06/19	10ml	10ml	NA	
CTMW-24-0619	K1905207-020	06/05/19	06/06/19	10ml	10ml	NA	
Method Blank	KWG1902876-3	NA	NA	10ml	10ml	NA	
Lab Control Sample	KWG1902876-1	NA	NA	10ml	10ml	NA	
Duplicate Lab Control Sample	KWG1902876-2	NA	NA	10ml	10ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis



1,4-Dioxane by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/19 09:37
Date Received: 06/05/19 09:55

Sample Name: CTMW-15-0619
Lab Code: K1905207-003

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	4.8	0.40	0.16	1	06/13/19 16:47	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	96	48 - 118	06/13/19 16:47	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/04/19 10:33
Date Received: 06/05/19 09:55

Sample Name: CTMW-25D-0619
Lab Code: K1905207-004

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	69	2.0	0.80	5	06/19/19 16:45	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	103	48 - 118	06/13/19 17:05	

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dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 08:27
Date Received: 06/06/19 11:10

Sample Name: CTMW-5-0619
Lab Code: K1905207-008

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 17:24	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	102	48 - 118	06/13/19 17:24	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 09:02
Date Received: 06/06/19 11:10

Sample Name: CTMW-18-0619
Lab Code: K1905207-009

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 17:42	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	91	48 - 118	06/13/19 17:42	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 09:43
Date Received: 06/06/19 11:10

Sample Name: CTMW-7-0619
Lab Code: K1905207-011

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	23	0.40	0.16	1	06/13/19 18:01	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	94	48 - 118	06/13/19 18:01	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 09:43
Date Received: 06/06/19 11:10

Sample Name: CTMW-9-7-0619
Lab Code: K1905207-012

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	21	0.40	0.16	1	06/13/19 18:20	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	82	48 - 118	06/13/19 18:20	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 10:55
Date Received: 06/06/19 11:10

Sample Name: CTMW-8-0619
Lab Code: K1905207-013

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 18:38	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	98	48 - 118	06/13/19 18:38	

ALS Group USA, Corp.
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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 11:36
Date Received: 06/06/19 11:10

Sample Name: CTMW-9-0619
Lab Code: K1905207-014

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	31	0.40	0.16	1	06/13/19 18:57	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	80	48 - 118	06/13/19 18:57	

ALS Group USA, Corp.
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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 13:25
Date Received: 06/06/19 11:10

Sample Name: Field Blank#1-0619
Lab Code: K1905207-017

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 19:15	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	104	48 - 118	06/13/19 19:15	

ALS Group USA, Corp.
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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 14:37
Date Received: 06/06/19 11:10

Sample Name: CTMW-24D-0619
Lab Code: K1905207-019

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	3.0	0.40	0.16	1	06/13/19 19:34	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	94	48 - 118	06/13/19 19:34	

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19 15:23
Date Received: 06/06/19 11:10

Sample Name: CTMW-24-0619
Lab Code: K1905207-020

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 19:53	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	152	48 - 118	06/13/19 19:53	*

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Analytical Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KQ1907986-04

Units: ug/L
Basis: NA

1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dioxane	ND U	0.40	0.16	1	06/13/19 15:32	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,4-Dioxane-d8	74	48 - 118	06/13/19 15:32	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

SURROGATE RECOVERY SUMMARY
1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Extraction Method: EPA 3535A

Sample Name	Lab Code	1,4-Dioxane-d8
		48-118
CTMW-15-0619	K1905207-003	96
CTMW-25D-0619	K1905207-004	103
CTMW-5-0619	K1905207-008	102
CTMW-18-0619	K1905207-009	91
CTMW-7-0619	K1905207-011	94
CTMW-9-7-0619	K1905207-012	82
CTMW-8-0619	K1905207-013	98
CTMW-9-0619	K1905207-014	80
Field Blank#1-0619	K1905207-017	104
CTMW-24D-0619	K1905207-019	94
CTMW-24-0619	K1905207-020	152*
Method Blank	KQ1907986-04	74
Lab Control Sample	KQ1907986-03	100
CTMW-7-0619	KQ1907986-01	102
CTMW-7-0619	KQ1907986-02	96

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/13/19 13:59

Internal Standard Area and RT SUMMARY
1,4-Dioxane by GC/MS

File ID: J:\MS26\DATA\061319\0613F006.D\
Instrument ID: K-MS-26
Analysis Method: 8270D SIM

Lab Code: KQ1908273-02
Analysis Lot: 639235
Signal ID: 1

	1,4-Dichlorobenzene-d4	
	Area	RT
Result ==>	21,987	5.21
Upper Limit ==>	43,974	5.71
Lower Limit ==>	10,994	4.71

Associated Analyses

Method Blank	KQ1907986-04	23910	5.21
Lab Control Sample	KQ1907986-03	23374	5.21
CTMW-7-0619MS	KQ1907986-01	24008	5.21
CTMW-7-0619DMS	KQ1907986-02	23870	5.21
CTMW-15-0619	K1905207-003	24049	5.21
CTMW-25D-0619	K1905207-004	22965	5.21
CTMW-5-0619	K1905207-008	25743	5.21
CTMW-18-0619	K1905207-009	23270	5.21
CTMW-7-0619	K1905207-011	25252	5.21
CTMW-9-7-0619	K1905207-012	22639	5.21
CTMW-8-0619	K1905207-013	24029	5.21
CTMW-9-0619	K1905207-014	23309	5.21
Field Blank#1-0619	K1905207-017	23446	5.21
CTMW-24D-0619	K1905207-019	23807	5.21
CTMW-24-0619	K1905207-020	13114	5.21

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/19/19 16:08

Internal Standard Area and RT SUMMARY
1,4-Dioxane by GC/MS

File ID: J:\MS26\DATA\061919\0619F023.D\
Instrument ID: K-MS-26
Analysis Method: 8270D SIM

Lab Code: KQ1908608-02
Analysis Lot: 640112
Signal ID: 1

	1,4-Dichlorobenzene-d4	
	Area	RT
Result ==>	21,708	5.25
Upper Limit ==>	43,416	5.75
Lower Limit ==>	10,854	4.75

Associated Analyses

CTMW-25D-0619	K1905207-004	18662	5.25
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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Collected: 06/05/19
Date Received: 06/06/19
Date Analyzed: 06/13/19
Date Extracted: 06/10/19

Duplicate Matrix Spike Summary
1,4-Dioxane by GC/MS

Sample Name: CTMW-7-0619
Lab Code: K1905207-011
Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike KQ1907986-01		Duplicate Matrix Spike KQ1907986-02		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
1,4-Dioxane	23	34.7	10.0	116	32.7	10.0	96	33-127	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/13/19
Date Extracted: 06/10/19

Lab Control Sample Summary
1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Units: ug/L
Basis: NA
Analysis Lot: 639235

Lab Control Sample
KQ1907986-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,4-Dioxane	9.59	10.0	96	52-111

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/13/19 15:32
Date Extracted: 06/10/19

Method Blank Summary
1,4-Dioxane by GC/MS

Sample Name: Method Blank
Lab Code: KQ1907986-04
Analysis Method: 8270D SIM
Prep Method: EPA 3535A

Instrument ID: K-MS-26
File ID: J:\MS26\DATA\061319\0613F011.D\
Analysis Lot: 639235,640112
Extraction Lot: 338298

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1907986-03	J:\MS26\DATA\061319\0613F012.D\	06/13/19 15:51
CTMW-7-0619MS	KQ1907986-01	J:\MS26\DATA\061319\0613F013.D\	06/13/19 16:09
CTMW-7-0619DMS	KQ1907986-02	J:\MS26\DATA\061319\0613F014.D\	06/13/19 16:28
CTMW-15-0619	K1905207-003	J:\MS26\DATA\061319\0613F015.D\	06/13/19 16:47
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061319\0613F016.D\	06/13/19 17:05
CTMW-5-0619	K1905207-008	J:\MS26\DATA\061319\0613F017.D\	06/13/19 17:24
CTMW-18-0619	K1905207-009	J:\MS26\DATA\061319\0613F018.D\	06/13/19 17:42
CTMW-7-0619	K1905207-011	J:\MS26\DATA\061319\0613F019.D\	06/13/19 18:01
CTMW-9-7-0619	K1905207-012	J:\MS26\DATA\061319\0613F020.D\	06/13/19 18:20
CTMW-8-0619	K1905207-013	J:\MS26\DATA\061319\0613F021.D\	06/13/19 18:38
CTMW-9-0619	K1905207-014	J:\MS26\DATA\061319\0613F022.D\	06/13/19 18:57
Field Blank#1-0619	K1905207-017	J:\MS26\DATA\061319\0613F023.D\	06/13/19 19:15
CTMW-24D-0619	K1905207-019	J:\MS26\DATA\061319\0613F024.D\	06/13/19 19:34
CTMW-24-0619	K1905207-020	J:\MS26\DATA\061319\0613F025.D\	06/13/19 19:53
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061919\0619F025.D\	06/19/19 16:45

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207
Date Analyzed: 06/13/19 15:51
Date Extracted: 06/10/19

Lab Control Sample Summary
1,4-Dioxane by GC/MS

Sample Name: Lab Control Sample **Instrument ID:** K-MS-26
Lab Code: KQ1907986-03 **File ID:** J:\MS26\DATA\061319\0613F012.D\
Analysis Method: 8270D SIM **Analysis Lot:** 639235,640112
Prep Method: EPA 3535A **Extraction Lot:** 338298

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1907986-04	J:\MS26\DATA\061319\0613F011.D\	06/13/19 15:32
CTMW-7-0619MS	KQ1907986-01	J:\MS26\DATA\061319\0613F013.D\	06/13/19 16:09
CTMW-7-0619DMS	KQ1907986-02	J:\MS26\DATA\061319\0613F014.D\	06/13/19 16:28
CTMW-15-0619	K1905207-003	J:\MS26\DATA\061319\0613F015.D\	06/13/19 16:47
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061319\0613F016.D\	06/13/19 17:05
CTMW-5-0619	K1905207-008	J:\MS26\DATA\061319\0613F017.D\	06/13/19 17:24
CTMW-18-0619	K1905207-009	J:\MS26\DATA\061319\0613F018.D\	06/13/19 17:42
CTMW-7-0619	K1905207-011	J:\MS26\DATA\061319\0613F019.D\	06/13/19 18:01
CTMW-9-7-0619	K1905207-012	J:\MS26\DATA\061319\0613F020.D\	06/13/19 18:20
CTMW-8-0619	K1905207-013	J:\MS26\DATA\061319\0613F021.D\	06/13/19 18:38
CTMW-9-0619	K1905207-014	J:\MS26\DATA\061319\0613F022.D\	06/13/19 18:57
Field Blank#1-0619	K1905207-017	J:\MS26\DATA\061319\0613F023.D\	06/13/19 19:15
CTMW-24D-0619	K1905207-019	J:\MS26\DATA\061319\0613F024.D\	06/13/19 19:34
CTMW-24-0619	K1905207-020	J:\MS26\DATA\061319\0613F025.D\	06/13/19 19:53
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061919\0619F025.D\	06/19/19 16:45

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QC/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/19/19 15:49

Tune Summary
1,4-Dioxane by GC/MS

File ID: J:\MS26\DATA\061919\0619F022.D\
Instrument ID: K-MS-26

Analytical Method: 8270D SIM
Analysis Lot: 640112

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	17.36	152377	Pass
68	69	0	2	1.42	2721	Pass
69	198	0	100	21.87	191909	Pass
70	69	0	2	0.42	805	Pass
127	198	10	80	36.59	321105	Pass
197	198	0	2	0.17	1485	Pass
198	442	30	100	55.96	877653	Pass
199	198	5	9	6.75	59229	Pass
275	198	10	60	32.49	285162	Pass
365	442	1	50	2.36	37026	Pass
441	443	0.01	100	77.22	236458	Pass
442	442	100	100	100.00	1568426	Pass
443	442	15	24	19.52	306218	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1908608-02	J:\MS26\DATA\061919\0619F023.D\	06/19/19 16:08	
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061919\0619F025.D\	06/19/19 16:45	

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QC/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/13/19 13:59

Tune Summary
1,4-Dioxane by GC/MS

File ID: J:\MS26\DATA\061319\0613F006.D\
Instrument ID: K-MS-26

Analytical Method: 8270D SIM
Analysis Lot: 639235

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1908273-02	J:\MS26\DATA\061319\0613F006.D\	06/13/19 13:59	
Method Blank	KQ1907986-04	J:\MS26\DATA\061319\0613F011.D\	06/13/19 15:32	
Lab Control Sample	KQ1907986-03	J:\MS26\DATA\061319\0613F012.D\	06/13/19 15:51	
CTMW-7-0619	KQ1907986-01	J:\MS26\DATA\061319\0613F013.D\	06/13/19 16:09	
CTMW-7-0619	KQ1907986-02	J:\MS26\DATA\061319\0613F014.D\	06/13/19 16:28	
CTMW-15-0619	K1905207-003	J:\MS26\DATA\061319\0613F015.D\	06/13/19 16:47	
CTMW-25D-0619	K1905207-004	J:\MS26\DATA\061319\0613F016.D\	06/13/19 17:05	
CTMW-5-0619	K1905207-008	J:\MS26\DATA\061319\0613F017.D\	06/13/19 17:24	
CTMW-18-0619	K1905207-009	J:\MS26\DATA\061319\0613F018.D\	06/13/19 17:42	
CTMW-7-0619	K1905207-011	J:\MS26\DATA\061319\0613F019.D\	06/13/19 18:01	
CTMW-9-7-0619	K1905207-012	J:\MS26\DATA\061319\0613F020.D\	06/13/19 18:20	
CTMW-8-0619	K1905207-013	J:\MS26\DATA\061319\0613F021.D\	06/13/19 18:38	
CTMW-9-0619	K1905207-014	J:\MS26\DATA\061319\0613F022.D\	06/13/19 18:57	
Field Blank#1-0619	K1905207-017	J:\MS26\DATA\061319\0613F023.D\	06/13/19 19:15	
CTMW-24D-0619	K1905207-019	J:\MS26\DATA\061319\0613F024.D\	06/13/19 19:34	
CTMW-24-0619	K1905207-020	J:\MS26\DATA\061319\0613F025.D\	06/13/19 19:53	

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 3/14/2019

Initial Calibration Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900106
Instrument ID: K-MS-26

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900106-01	1,4 DX ICAL 2.0ng/mL SVM60-36A	J:\MS26\DATA\031419\0314F003.D	03/14/2019 17:17
02	KC1900106-02	1,4 DX ICAL 4.0ng/mL SVM60-36B	J:\MS26\DATA\031419\0314F004.D	03/14/2019 17:36
03	KC1900106-03	1,4 DX ICAL 10ng/mL SVM60-36C	J:\MS26\DATA\031419\0314F005.D	03/14/2019 17:54
04	KC1900106-04	1,4 DX ICAL 20ng/mL SVM60-36D	J:\MS26\DATA\031419\0314F006.D	03/14/2019 18:13
05	KC1900106-05	1,4 DX ICAL 50ng/mL SVM60-36E	J:\MS26\DATA\031419\0314F007.D	03/14/2019 18:32
06	KC1900106-06	1,4 DX ICAL 100ng/mL SVM60-36F	J:\MS26\DATA\031419\0314F008.D	03/14/2019 18:50
07	KC1900106-07	1,4 DX ICAL 200ng/mL SVM60-36G	J:\MS26\DATA\031419\0314F009.D	03/14/2019 19:09

Analyte

1,4-Dioxane											
#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.4009	02	4.000	0.4617	03	10.000	0.4706	04	20.000	0.3774
05	50.000	0.4171	06	100.000	0.4283	07	200.000	0.417			

1,4-Dioxane-d8											
#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.3686	02	4.000	0.3595	03	10.000	0.4601	04	20.000	0.3595
05	50.000	0.4056	06	100.000	0.4229	07	200.000	0.401			

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 3/14/2019

Initial Calibration Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900106
Instrument ID: K-MS-26

Signal ID: 1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,4-Dioxane	TRG	Average RF	% RSD	7.7	20	0.4247	0.01
1,4-Dioxane-d8	SURR	Average RF	% RSD	9.4	20	0.3967	0.01

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 6/17/2019

Initial Calibration Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900230
Instrument ID: K-MS-26

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900230-01	1,4 DX ICAL 2.0ng/mL SVM61-35	J:\MS26\DATA\061719\0617F022.D	06/17/2019 16:27
02	KC1900230-02	1,4 DX ICAL 4.0ng/mL SVM61-35B	J:\MS26\DATA\061719\0617F023.D	06/17/2019 16:45
03	KC1900230-03	1,4 DX ICAL 10ng/mL SVM61-35C	J:\MS26\DATA\061719\0617F024.D	06/17/2019 17:04
04	KC1900230-04	1,4 DX ICAL 20ng/mL SVM61-35D	J:\MS26\DATA\061719\0617F025.D	06/17/2019 17:23
05	KC1900230-05	1,4 DX ICAL 50ng/mL SVM61-35E	J:\MS26\DATA\061719\0617F026.D	06/17/2019 17:41
06	KC1900230-06	1,4 DX ICAL 100ng/mL SVM61-35F	J:\MS26\DATA\061719\0617F027.D	06/17/2019 18:00
07	KC1900230-07	1,4 DX ICAL 200ng/mL SVM61-35G	J:\MS26\DATA\061719\0617F028.D	06/17/2019 18:18

Analyte

1,4-Dioxane											
#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.1641	02	4.000	0.1603	03	10.000	0.2101	04	20.000	0.2326
05	50.000	0.222	06	100.000	0.2724	07	200.000	0.2664			

1,4-Dioxane-d8											
#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.1921	02	4.000	0.2072	03	10.000	0.282	04	20.000	0.263
05	50.000	0.216	06	100.000	0.3204	07	200.000	0.3024			

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 6/17/2019

Initial Calibration Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900230
Instrument ID: K-MS-26

Signal ID: 1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,4-Dioxane	TRG	Quadratic	COD	0.9973	0.990	0.2183	0.01
1,4-Dioxane-d8	SURR	Quadratic	COD	0.9913	0.990	0.2547	0.01

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 3/14/2019

Initial Calibration Verification Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900106
Instrument ID: K-MS-26

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1900106-08	1,4 DX ICV 20ng/mL SVM60-36H	J:\MS26\DATA\031419\0314F011.D	03/14/2019 19:46

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,4-Dioxane	20.0	18.7	4.247E-1	3.98E-1	-6.283	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,4-Dioxane-d8	20.0	20.7	3.967E-1	4.104E-1	3.45	±30	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19

Service Request: K1905207
Calibration Date: 6/17/2019

Initial Calibration Verification Summary
1,4-Dioxane by GC/MS

Calibration ID: KC1900230
Instrument ID: K-MS-26

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1900230-08	1,4 DX ICV 20ng/mL SVM61-35H	J:\MS26\DATA\061719\0617F029.D	06/17/2019 18:37

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,4-Dioxane	0.00	16.6	2.183E-1	1.91E-1	-16.871	±30	Quadratic

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,4-Dioxane-d8	0.00	18.4	2.547E-1	2.379E-1	-8.210	±30	Quadratic

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/13/19 13:59

Continuing Calibration Verification (CCV) Summary
1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
File ID: J:\MS26\DATA\061319\0613F006.D\
Signal ID: 1

Calibration Date: 3/14/2019
Calibration ID: KC1900106
Analysis Lot: 639235
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Dioxane	20.0	20.6	0.4247	0.4373	3.0	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Dioxane-d8	20.0	21.8	0.3967	0.433	9.1	NA	±20	Average RF

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207
Date Analyzed: 06/19/19 16:08

Continuing Calibration Verification (CCV) Summary
1,4-Dioxane by GC/MS

Analysis Method: 8270D SIM
File ID: J:\MS26\DATA\061919\0619F023.D\
Signal ID: 1

Calibration Date: 6/17/2019
Calibration ID: KC1900230
Analysis Lot: 640112
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Dioxane	20.0	16.3	0.2183	0.187	NA	-18.5	±20	Quadratic

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,4-Dioxane-d8	20.0	16.7	0.2547	0.2149	NA	-16.7	±20	Quadratic

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request: K1905207

Analysis Run Log
1,4-Dioxane by GC/MS

Analysis Method:

Analysis Lot: 639235
Instrument ID: K-MS-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS26\DATA\061319\0613F005.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	13:41:00	
J:\MS26\DATA\061319\0613F005.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	13:41:00	
J:\MS26\DATA\061319\0613F006.D\	Continuing Calibration Verification	KQ1908273-02	6/13/2019	13:59:00	
J:\MS26\DATA\061319\0613F006.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	13:59:00	
J:\MS26\DATA\061319\0613F007.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	14:18:00	
J:\MS26\DATA\061319\0613F008.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	14:37:00	
J:\MS26\DATA\061319\0613F009.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	14:55:00	
J:\MS26\DATA\061319\0613F010.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	15:14:00	
J:\MS26\DATA\061319\0613F011.D\	Method Blank	KQ1907986-04	6/13/2019	15:32:00	
J:\MS26\DATA\061319\0613F012.D\	Lab Control Sample	KQ1907986-03	6/13/2019	15:51:00	
J:\MS26\DATA\061319\0613F013.D\	CTMW-7-0619 MS	KQ1907986-01	6/13/2019	16:09:00	
J:\MS26\DATA\061319\0613F014.D\	CTMW-7-0619 DMS	KQ1907986-02	6/13/2019	16:28:00	
J:\MS26\DATA\061319\0613F015.D\	CTMW-15-0619	K1905207-003	6/13/2019	16:47:00	
J:\MS26\DATA\061319\0613F016.D\	CTMW-25D-0619	K1905207-004	6/13/2019	17:05:00	
J:\MS26\DATA\061319\0613F017.D\	CTMW-5-0619	K1905207-008	6/13/2019	17:24:00	
J:\MS26\DATA\061319\0613F018.D\	CTMW-18-0619	K1905207-009	6/13/2019	17:42:00	
J:\MS26\DATA\061319\0613F019.D\	CTMW-7-0619	K1905207-011	6/13/2019	18:01:00	
J:\MS26\DATA\061319\0613F020.D\	CTMW-9-7-0619	K1905207-012	6/13/2019	18:20:00	
J:\MS26\DATA\061319\0613F021.D\	CTMW-8-0619	K1905207-013	6/13/2019	18:38:00	
J:\MS26\DATA\061319\0613F022.D\	CTMW-9-0619	K1905207-014	6/13/2019	18:57:00	
J:\MS26\DATA\061319\0613F023.D\	Field Blank#1-0619	K1905207-017	6/13/2019	19:15:00	
J:\MS26\DATA\061319\0613F024.D\	CTMW-24D-0619	K1905207-019	6/13/2019	19:34:00	
J:\MS26\DATA\061319\0613F025.D\	CTMW-24-0619	K1905207-020	6/13/2019	19:53:00	
J:\MS26\DATA\061319\0613F026.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	20:11:00	
J:\MS26\DATA\061319\0613F027.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	20:30:00	
J:\MS26\DATA\061319\0613F028.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	20:48:00	
J:\MS26\DATA\061319\0613F029.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	21:07:00	
J:\MS26\DATA\061319\0613F030.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	21:26:00	
J:\MS26\DATA\061319\0613F031.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	21:44:00	
J:\MS26\DATA\061319\0613F032.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	22:03:00	
J:\MS26\DATA\061319\0613F033.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	22:22:00	
J:\MS26\DATA\061319\0613F034.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	22:40:00	
J:\MS26\DATA\061319\0613F034.D\	ZZZZZZZ	ZZZZZZZ	6/13/2019	22:40:00	

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QA/QC Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01

Service Request:K1905207

Analysis Run Log
1,4-Dioxane by GC/MS

Analysis Method:

Analysis Lot:640112
Instrument ID:K-MS-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS26\DATA\061919\0619F022.D\	ZZZZZZZ	ZZZZZZZ	6/19/2019	15:49:00	
J:\MS26\DATA\061919\0619F023.D\	Continuing Calibration Verification	KQ1908608-02	6/19/2019	16:08:00	
J:\MS26\DATA\061919\0619F025.D\	CTMW-25D-0619	K1905207-004	6/19/2019	16:45:00	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

1,4-Dioxane by GC/MS

Prep Method: EPA 3535A
Analytical Method: 8270D SIM

Extraction Lot: 338298
Extraction Date: 06/10/19 14:40

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
CTMW-15-0619	K1905207-003	6/4/19	6/5/19	10 mL	2 mL	
CTMW-25D-0619	K1905207-004	6/4/19	6/5/19	10 mL	2 mL	
CTMW-5-0619	K1905207-008	6/5/19	6/6/19	10 mL	2 mL	
CTMW-18-0619	K1905207-009	6/5/19	6/6/19	10 mL	2 mL	
CTMW-7-0619	K1905207-011	6/5/19	6/6/19	10 mL	2 mL	
CTMW-9-7-0619	K1905207-012	6/5/19	6/6/19	10 mL	2 mL	
CTMW-8-0619	K1905207-013	6/5/19	6/6/19	10 mL	2 mL	
CTMW-9-0619	K1905207-014	6/5/19	6/6/19	10 mL	2 mL	
Field Blank#1-0619	K1905207-017	6/5/19	6/6/19	10 mL	2 mL	
CTMW-24D-0619	K1905207-019	6/5/19	6/6/19	10 mL	2 mL	
CTMW-24-0619	K1905207-020	6/5/19	6/6/19	10 mL	2 mL	
Matrix Spike	KQ1907986-01MS	6/5/19	6/6/19	10 mL	2 mL	
Duplicate Matrix Spike	KQ1907986-02DMS	6/5/19	6/6/19	10 mL	2 mL	
Lab Control Sample	KQ1907986-03LCS	NA	NA	10 mL	2 mL	
Method Blank	KQ1907986-04MB	NA	NA	10 mL	2 mL	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Stericycle Environmental Solutions, Inc.
Project: Tacoma 2Q19/376.01
Sample Matrix: Water

Service Request: K1905207

1,4-Dioxane by GC/MS

Prep Method: EPA 3535A
Analytical Method: 8270D SIM

Extraction Lot: 338726
Extraction Date: 06/14/19 12:55

<u>Sample Name</u>	<u>Lab Code</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Sample Amount</u>	<u>Final Amount</u>	<u>Percent Solids</u>
Continuing Calibration Verification	KQ1908273-02CCV	NA	NA	10 mL	2 mL	

ATTACHMENT C

QA/QC SOLUTIONS, LLC



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July 31, 2019

Bill Beck, Greg Fink, and Duane Beery
Stericycle Environmental Solutions
18000 72nd Avenue South, Suite 201
Kent, Washington 98032

Subject: Tacoma 2nd Quarter 2019 Data Validation Review
Client Project No.: 376.10
QA/QC Solutions, LLC Project No.: 071019.1

Dear Bill and Duane:

This letter documents the results of the data validation review of the chemical analyses of organic and inorganic compounds completed on groundwater samples associated with Stericycle Environmental Solutions Tacoma 2nd Quarter 2019 sampling event.

The data were validated to verify the laboratory quality assurance and quality control (QA/QC) procedures were documented and that the overall quality is sufficient to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

Overall Assessment of Data Quality

Overall, the data reported are of good quality and the results for the applicable QA/QC procedures that were used by the laboratories during the analysis of the samples were generally acceptable. Selected sample results required qualification during data validation because method-specific QA/QC criteria were not met; results maybe qualified for more than one reason. During data validation, the following actions were taken:

- A total of 223 results reported as detected were qualified as estimated (assigned a J qualifier).
- A total of 45 results reported as detected were restated as undetected (assigned a U qualifier) and six results reported as detected were restated as undetected and estimated (assigned a UJ qualifier).
- No results required rejection (assigned an R qualifier).

Analytical data that did not meet method- and/or laboratory-established control limits for applicable quality control measurements were qualified as estimated (*J*) by the laboratory or during data validation. These qualified data are usable and represent data of good quality and reasonable confidence and have an acceptable degree of uncertainty (i.e., may be less precise or less accurate than unqualified data). Analytical data that were reported as undetected (*U*) by the laboratory or that were restated as undetected (*U*) or

repeated as undetected and estimated (*UJ*) during data validation are usable. A summary of the qualified sample data and the reason(s) for qualification is presented in Table 2.

****Data users must note that results may be qualified for more than one reason.***

Data Set

The data set consisted of 19 water samples (i.e., 14 groundwater samples, 2 field duplicates, 2 trip blanks, and 1 field blank) that were collected in June 2019. A summary of the samples collected and the analyses completed is presented in Table 1.

All organic and inorganic chemical analyses were completed by ALS Group USA Corp. dba ALS Environmental (ALS) located in Kelso, Washington. The data were reported in one service request (K1905207). ALS submitted a complete hardcopy data validation deliverable and electronic data deliverable (EDD).

Analytical Methods

The analytical methods used by the laboratories to complete the chemical analyses included the following:

- Total metals (i.e., arsenic, cadmium, chromium, copper, lead, nickel, and zinc) by digestion with 1% nitric acid and 0.2% hydrochloric acid and analysis by inductively coupled plasma-mass spectrometry (ICP-MS) using U.S. EPA SW-846 Method 6020A (U.S. EPA 2019).
- Dissolved metals (i.e., arsenic, cadmium, chromium, copper, lead, nickel, and zinc) by field filtration through 0.45 µm filter, digestion with 1% nitric acid and 0.2% hydrochloric acid, and analysis by ICP-MS using U.S. SW-846 Method 6020A (U.S. EPA 2019).
- Total mercury by digestion with hydrogen peroxide and nitric acid, addition of nickel nitrate solution, and analysis by cold vapor atomic absorption (CVAA) using U.S. EPA SW-846 Method 7470A (U.S. EPA 2019).
- Dissolved mercury by metals by field filtration through 0.45 µm filter, digestion with hydrogen peroxide and nitric acid, addition of nickel nitrate solution, and analysis by cold vapor atomic absorption (CVAA) using U.S. EPA SW-846 Method 7470A (U.S. EPA 2019).
- Gasoline-range petroleum hydrocarbons by purge and trap and analysis by gas chromatography/flame ionization detection (GC/FID) using the Washington Department of Ecology NWTPH-Gx method (Ecology 1997).
- Diesel- and oil-range petroleum hydrocarbons by extraction and analysis by gas chromatography/flame ionization (GC/FID) using the Washington Department of Ecology NWTPH-Dx (extended) method (Ecology 1997).
- Volatile organic compounds (VOCs) (45 target analytes with co-elutions included) by purge and trap and analysis by gas chromatography/mass spectrometry (GC/MS) operated in the full scan mode using U.S. EPA SW-846 Methods 5030B and 8260C, respectively (U.S. EPA 2019).
- VOCs (5 target analytes) by purge and trap and analysis by GC/MS operated in the selected ion monitoring (SIM) mode to achieve lower reporting limits using U.S. EPA SW-846 Methods 5030B and 8260C, respectively (U.S. EPA 2019).

- 1,4-Dioxane by solid-phase extraction and analysis by GC/MS operated in the SIM mode using U.S. EPA SW-846 Methods 3535A and 8270D-SIM, respectively (U.S. EPA 2019).

Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory; this level of validation is also referred to as an abbreviated data review (equivalent to “Stage 2B” review per U.S. EPA 2009, which is equivalent to “Level EPA2B” for use with the Washington Department of Ecology EIMS database). The analytical data were validated generally following the applicable guidance and requirements:

- Method-specific and laboratory-established quality control requirements, as applicable.
- Guidance on Environmental Data Verification and Validation (U.S. EPA 2002)
- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review. Final. OSWER 9240.1-45. USEPA/540/R-08/01 (U.S. EPA 2008).
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OSWER 9240.1-51. EPA 540-R-10-011 (U.S. EPA 2010).

Data validation procedures were modified to accommodate QA/QC requirements for methods (e.g., petroleum hydrocarbon analyses) that are not specifically addressed by the USEPA functional guidelines. Method-specific and laboratory-established control limits were used, as necessary, to determine if qualification of the data was necessary. The laboratory data deliverables that were validated included the following:

- Case narrative discussing analytical problems (if any) and procedures.
- Chain-of-custody documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for applicable instrument tuning, initial calibration, and continuing calibration verification (CCV) results to assess instrument performance.
- Results for applicable instrument blanks (i.e., initial calibration blanks [ICBs] and continuing calibration blanks [CCBs]), method blanks, trip blanks, and field blanks to determine whether an analyte that was reported as detected in any sample was the result of possible contamination introduced at the laboratory, during transport of samples, or during field sampling, respectively.
- Results for applicable internal standards performance (VOC and 1,4-Dioxane analyses) to verify that instrument sensitivity and response was stable during the analysis of the samples.
- Results for applicable method-specific quality control measurements for metals (i.e., serial dilutions and interference check samples for metals analyses) to assess potential matrix interference effects.

- Results for applicable surrogate compound (or system monitoring compound for VOC analyses), laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision.
- Results for the field duplicate samples to provide additional information in support of the quality assurance review.
- Laboratory summaries of analytical results.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printout and associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory and applicable control limits specified in the analytical methods were used to evaluate data quality and to determine if specific data required qualification. Data qualifiers were assigned during data validation following guidance specified by U.S. EPA (2002, 2008, and 2010) to the EDD when applicable QC measurement criteria were not met and qualification of the data was warranted.

Reasons for Data Qualification

The data and reasons for qualification are summarized below. A summary of the qualified data and the reasons for qualification are summarized in Table 2; results may be qualified for more than one reason.

Total Metals and VOC Analyses

- A total of 66 results reported as detected at a concentration above the method detection limit (MDL), but less than the method reporting limit (MRL) were qualified as estimated (J). These qualified results may exhibit a greater degree of uncertainty than a concentration that is reported above the MRL.

Metals Analyses

- A total of 31 results reported as detected were restated as undetected (*U*) because the concentrations were less than 5 times the concentration found in the associated field blank. These results were restated as undetected at the concentration reported or reported as undetected at the concentration found in the blank.
- The eight total metal results reported for two samples (CTMW-8-0619 and CTMW-9-0619) were qualified as estimated (*UJ or J*) because the pH of the samples were >2 at the time of receipt and could not be adjusted to pH of <2 with addition of nitric acid at the laboratory.

Gasoline Range Organic Analyses

- The undetected result reported for Trip Blank #1-0619 was qualified as estimated (*J*) because headspace was noted in all bottles received.

VOC Analyses by GC/MS operated in full scan mode

- All of the undetected and detected results reported for Trip Blank #1-0619 were qualified as estimated (*J*) because headspace was noted in all bottles received.
- The results reported as undetected and/or detected for acetonitrile and isobutyl alcohol were qualified as estimated (*J*) because the method-specific minimum relative response factor (RRF) requirement of ≥ 0.01 was not met in the associated initial calibration standards and/or continuing CCVs. A total of 36 results were qualified for this reason.
- All 45 VOC results reported as undetected or detected for Sample CTMW-8-0619 were qualified as estimated (*J*) because the recovery of one of the three surrogate compounds was below the lower laboratory-established control limit.
- The results reported as undetected and/or detected for tetrachloroethene and trichlorofluoromethane were qualified as estimated (*J*) because the recovery of these VOCs in the associated were below the applicable lower laboratory-established control limit. A total of 36 results were qualified for this reason.
- A total of 15 results reported as detected for iodomethane and one result for dichloromethane (i.e., methylene chloride) were restated as undetected (*U*) because the concentrations were less than between 2 times and 10 times (for common contaminants) the concentration found in the associated trip blank, field blank, and/or method blank. These results were restated as undetected at the concentration reported in the sample or was elevated to the concentration found in the associated blank.

VOC Analyses by GC/MS operated in SIM mode

- The undetected and detected results reported for Trip Blank #1-0619 were qualified as estimated (*J*) because headspace was noted in all bottles received.
- Four results reported as detected for 1,2-Dichloroethane were restated as undetected (*U*) because the concentrations were less than between 2 times the concentration found in the associated field blank. These results were restated as undetected at the concentration reported in the sample or was elevated to the concentration found in the associated blank.
- One result reported as detected for 1,2-Dichloroethane was qualified as estimated (*J*) because the concentration was $>2x$, but $<5x$ the concentration found in the field blank.
- The results reported as undetected for 1,1,2,2-Tetrachloroethane in CTMW-24D-0619 and CTMW-24-0619 were qualified as estimated (*J*) because the method-specific minimum relative response factor (RRF) requirement of ≥ 0.300 was not met in the associated initial calibration standards and/or continuing CCVs.

General Comments:

- During data validation, it was determined that selected data-validation-specific and/or method-specific QA/QC measurement criteria were not met. Qualification of the sample results was not required because the overall quality of the data reported was not affected and, therefore, are not summarized herein.
- For some samples received, additional preservative was required to be added and was noted by ALS on the cooler receipt and preservative form.
- The data package was received by QA/QC Solutions, LLC on July 10, 2019 (14 days late).
- Insufficient sample volume was apparently available to complete an MS/MSD for 1,4-Dioxane analyses. In these instances, accuracy and precision was assessed based the results of the LCS and duplicate LCS analyses. In some instances, only an LCS were analyzed; therefore, no assessment of precision could be made.

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at jjmcateer@msn.com.

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at jjmcateer@msn.com.

Cordially,



QA/QC Solutions, LLC

James J. Mc Ateer, Jr., Managing Member

cc: Natasya Gray, L.G., Dalton, Olmsted & Fuglevand, Inc.

Attachments

References

Ecology. 1997. Analytical methods for petroleum hydrocarbons. June 1997. Washington Department of Ecology, Olympia, WA.

U.S. EPA 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002. U.S. Environmental Protection Agency, Office of Environmental Information, Washington DC.

U.S. EPA 2008. USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review. Final. OSWER 9240.1-45. USEPA/540/R-08/01. June 2008. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC.

U.S. EPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. January 13, 2009. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA 2010. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OSWER 9240.1-51. EPA 540-R-10-011. January 2010. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC.

U.S. EPA 2019. SW-846 on-line. Test methods for evaluating solid wastes, physical/chemical methods. <https://www.epa.gov/hw-sw846/sw-846-compendium> (last updated on April 24, 2019). U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC.

Table 1. Summary of Samples Collected and Analyses Completed for Tacoma Second Quarter 2019 Groundwater Sampling Event

Sample Number	Laboratory Sample Number	Sample Date	Sample Time	Sample Depth	Total Metals by 6020A	Dissolved Metals by 6020A	Total Mercury by 7470A	Dissolved Mercury by 7470A	NWTPH-Gx by WDOE Method	NWTPH-Dx by WDOE Method	VOCs by 8260C	VOCS by 8260C SIM	1,4-Dioxane by 8270D SIM				
TRIP BLANK #1-0619	K1905207-001	6/4/19	06:51	0					✓		✓	✓					
CTMW-14-0619	K1905207-002	6/4/19	08:09	9.9	✓	✓	✓	✓			✓	✓					
CTMW-15-0619	K1905207-003	6/4/19	09:37	9	✓	✓	✓	✓		✓	✓	✓	✓				
CTMW-25D-0619	K1905207-004	6/4/19	10:33	19.7	✓					✓	✓	✓	✓				
CTMW-20-0619	K1905207-005	6/4/19	11:38	6.6	✓				✓	✓	✓	✓					
TRIP BLANK #2-0619	K1905207-006	6/5/19	06:50	0					✓		✓	✓					
CTMW-14-0619	K1905207-007	6/5/19	07:35	9.9						✓							
CTMW-5-0619	K1905207-008	6/5/19	08:27	9.95	✓		✓			✓	✓	✓	✓				
CTMW-18-0619	K1905207-009	6/5/19	09:02	12.4	✓		✓		✓	✓	✓	✓	✓				
CTMW-9-18-0619	K1905207-010	6/5/19	09:02	12.4					✓								
CTMW-7-0619	K1905207-011	6/5/19	09:43	25	✓		✓			✓	✓	✓	✓				
CTMW-9-7-0619	K1905207-012	6/5/19	09:43	25	✓		✓			✓	✓	✓	✓				
CTMW-8-0619	K1905207-013	6/5/19	10:55	9.1	✓		✓			✓	✓	✓	✓				
CTMW-9-0619	K1905207-014	6/5/19	11:36	24	✓		✓			✓	✓	✓	✓				
CTMW-17-0619	K1905207-015	6/5/19	12:31	14	✓		✓			✓	✓	✓					
CTMW-17D-0619	K1905207-016	6/5/19	13:12	28	✓		✓			✓	✓	✓					
FIELD BLANK#1-0619	K1905207-017	6/5/19	13:25	0	✓		✓			✓	✓	✓	✓				
CTMW-12-0619	K1905207-018	6/5/19	13:54	26	✓		✓			✓	✓	✓					
CTMW-24D-0619	K1905207-019	6/5/19	14:37	24	✓		✓			✓	✓	✓	✓				
CTMW-24-0619	K1905207-020	6/5/19	15:23	11.1	✓		✓			✓	✓	✓	✓				
Notes					Total Number of Samples:				16	2	14	2	5	16	18	18	11

Dx - diesel-range and oil-range hydrocarbons
Gx - gasoline-range hydrocarbons
NWTPH - Northwest Total Petroleum Hydrocarbons
SIM - selected ion monitoring
VOC - volatile organic compound
WDOE - Washington Department of Ecology

Table 2. Summary of Qualified Data for Tacoma Second Quarter 2019 Groundwater Sampling Event^a

Sample Number	Laboratory Sample Number	Chemical	Data				Laboratory Data Flag	Validation Qualifier	Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
			Concentration	Units	MRL	MDL					
Metals											
CTMW-14-0619	K1905207-002	Chromium, Dissolved	0.00159	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
CTMW-15-0619	K1905207-003	Chromium	0.00054	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
		Zinc	0.0015	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
		Chromium, Dissolved	0.00054	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
		Copper, Dissolved	0.00027	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
		Lead, Dissolved	0.000014	mg/L	0.000020	0.000006	J	U	Detected in field blank	Detected at 0.000012 mg/L	False positive
CTMW-25D-0619	K1905207-004	Cadmium	0.000011	mg/L	0.000020	0.000008	J	J	Concentration >MDL, <MRL	NA	Low or high
		Zinc	0.0012	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
CTMW-20-0619	K1905207-005	Lead	0.000014	mg/L	0.000020	0.000006	J	J	Concentration >MDL, <MRL	NA	Low or high
		Chromium	0.00054	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
CTMW-18-0619	K1905207-009	Chromium	0.00054	mg/L	0.000020	0.000008		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
		Zinc	0.0009	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
CTMW-7-0619	K1905207-011	Arsenic	0.00039	mg/L	0.00050	0.00009	J	J	Concentration >MDL, <MRL	NA	Low or high
		Copper	0.00013	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
		Lead	0.000015	mg/L	0.000020	0.000006	J	U	Detected in field blank	Detected at 0.000012 mg/L	False positive
		Zinc	0.0018	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
		Mercury	0.02	ug/L	0.20	0.02	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-9-7-0619	K1905207-012	Arsenic	0.00041	mg/L	0.00050	0.00009	J	J	Concentration >MDL, <MRL	NA	Low or high
		Copper	0.00015	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
		Lead	0.000018	mg/L	0.000020	0.000006	J	U	Detected in field blank	Detected at 0.000012 mg/L	False positive
		Zinc	0.0016	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
CTMW-8-0619	K1905207-013	Arsenic	0.0230	mg/L	0.00050	0.00009		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Cadmium	0.000036	mg/L	0.000020	0.000008		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Copper	0.00077	mg/L	0.00010	0.00005		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Lead	0.000438	mg/L	0.000020	0.000006		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Nickel	0.00176	mg/L	0.00020	0.00004		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH of sample >2	Low or high
		Chromium	0.00054	mg/L	0.00020	0.00003	J	UJ	Detected in field blank and pH of sample >2	Detected at 0.00054 mg/L and pH of sample >2	False positive
		Zinc	0.0019	mg/L	0.0020	0.0005	J	UJ	Detected in field blank and pH of sample >2	Detected at 0.0009 mg/L and pH of sample >2	False positive
		Mercury		ug/L	0.20	0.02	U	J	pH of sample >2	pH could not be made <2	Low or high
CTMW-9-0619	K1905207-014	Arsenic	0.00078	mg/L	0.00050	0.00009		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Cadmium		mg/L	0.000020	0.000008	U	J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Lead	0.000169	mg/L	0.000020	0.000006		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Nickel	0.00557	mg/L	0.00020	0.00004		J	Concentration >MDL, <MRL and pH of sample >2	NA and pH could not be made <2	Low or high
		Chromium	0.00606	mg/L	0.00020	0.00003		UJ	Detected in field blank and pH of sample >2	Detected at 0.00054 mg/L and pH of sample >2	False positive
		Copper	0.00031	mg/L	0.00010	0.00005		UJ	Detected in field blank and pH of sample >2	Detected at 0.00008 mg/L and pH of sample >2	False positive
		Zinc	0.0008	mg/L	0.0020	0.0005	J	UJ	Detected in field blank and pH of sample >2	Detected at 0.0009 mg/L and pH of sample >2	False positive
		Mercury	0.06	ug/L	0.20	0.02	J	J	pH of sample >2	pH could not be made <2	Low or high
CTMW-17-0619	K1905207-015	Chromium	0.00235	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
		Mercury	0.02	ug/L	0.20	0.02	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-17D-0619	K1905207-016	Arsenic	0.00045	mg/L	0.00050	0.00009	J	J	Concentration >MDL, <MRL	NA	Low or high
		Copper	0.00027	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
FIELD BLANK#1-0619	K1905207-017	Copper	0.00008	mg/L	0.00010	0.00005	J	J	Concentration >MDL, <MRL	NA	Low or high
		Lead	0.000012	mg/L	0.000020	0.000006	J	J	Concentration >MDL, <MRL	NA	Low or high
		Nickel	0.00009	mg/L	0.00020	0.00004	J	J	Concentration >MDL, <MRL	NA	Low or high
		Zinc	0.0009	mg/L	0.0020	0.0005	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-12-0619	K1905207-018	Arsenic	0.00032	mg/L	0.00050	0.00009	J	J	Concentration >MDL, <MRL	NA	Low or high
		Lead	0.000039	mg/L	0.000020	0.000006		U	Detected in field blank	Detected at 0.000012 mg/L	False positive
		Zinc	0.0009	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
		Mercury	0.03	ug/L	0.20	0.02	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-24D-0619	K1905207-019	Copper	0.00039	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
		Lead	0.000045	mg/L	0.000020	0.000005		U	Detected in field blank	Detected at 0.000012 mg/L	False positive

Table 2, continued

Sample Number	Laboratory Sample Number	Chemical	Data				Laboratory Data Flag	Validation Qualifier	Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
			Concentration	Units	MRL	MDL					
		Zinc	0.0009	mg/L	0.0020	0.0005	J	U	Detected in field blank	Detected at 0.0009 mg/L	False positive
CTMW-24-0619	K1905207-020	Chromium	0.00054	mg/L	0.00020	0.00003		U	Detected in field blank	Detected at 0.00054 mg/L	False positive
		Copper	0.00024	mg/L	0.00010	0.00005		U	Detected in field blank	Detected at 0.00008 mg/L	False positive
		Zinc	0.0044	mg/L	0.0020	0.0005		U	Detected in field blank	Detected at 0.0009 mg/L	False positive
Gasoline-Range Organics by GC/FID											
TRIP BLANK #1-0619	K1905207-001	TPH(as gasoline)	ND	ug/L	50.0	50.0	U	J	Head space noted in bottles	NA	Low or high
VOCs by GC/MS operated in full scan mode											
TRIP BLANK #1-0619	K1905207-001	1,1-Dichloroethane	ND	ug/L	0.50	0.077	U	J	Head space noted in bottles	NA	Low or high
		1,1,1-Trichloroethane	ND	ug/L	0.50	0.075	U	J	Head space noted in bottles	NA	Low or high
		1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.11	U	J	Head space noted in bottles	NA	Low or high
		1,1,2-Trichloroethane	ND	ug/L	0.50	0.14	U	J	Head space noted in bottles	NA	Low or high
		1,2-Dichloropropane	ND	ug/L	0.50	0.095	U	J	Head space noted in bottles	NA	Low or high
		1,2,3-Trichloropropane	ND	ug/L	0.50	0.20	U	J	Head space noted in bottles	NA	Low or high
		2-Butanone	ND	ug/L	20	1.9	U	J	Head space noted in bottles	NA	Low or high
		2-Chloroethyl Vinyl Ether	ND	ug/L	5.0	0.16	U	J	Head space noted in bottles	NA	Low or high
		2-Hexanone	ND	ug/L	20	2.7	U	J	Head space noted in bottles	NA	Low or high
		3-Chloro-1-propene	ND	ug/L	5.0	0.094	U	J	Head space noted in bottles	NA	Low or high
		4-Methyl-2-pentanone	ND	ug/L	20	2.6	U	J	Head space noted in bottles	NA	Low or high
		Acetone	ND	ug/L	20	3.3	U	J	Head space noted in bottles	NA	Low or high
		Acetonitrile	ND	ug/L	50	13	U	J	Head space noted in bottles and RRF in calibration standards <0.010	NA	Low or high
		Acrolein	ND	ug/L	20	1.2	U	J	Head space noted in bottles	NA	Low or high
		Acrylonitrile	ND	ug/L	5.0	0.53	U	J	Head space noted in bottles	NA	Low or high
		Benzene	ND	ug/L	0.50	0.062	U	J	Head space noted in bottles	NA	Low or high
		Bromodichloromethane	ND	ug/L	0.50	0.091	U	J	Head space noted in bottles	NA	Low or high
		Bromoform	ND	ug/L	0.50	0.16	U	J	Head space noted in bottles	NA	Low or high
		Bromomethane	ND	ug/L	0.50	0.16	U	J	Head space noted in bottles	NA	Low or high
		Carbon Disulfide	ND	ug/L	0.50	0.069	U	J	Head space noted in bottles	NA	Low or high
		Chlorobenzene	ND	ug/L	0.50	0.11	U	J	Head space noted in bottles	NA	Low or high
		Chloroethane	ND	ug/L	0.50	0.16	U	J	Head space noted in bottles	NA	Low or high
		Chloroform	ND	ug/L	0.50	0.072	U	J	Head space noted in bottles	NA	Low or high
		Chloromethane	ND	ug/L	0.50	0.068	U	J	Head space noted in bottles	NA	Low or high
		cis-1,2-Dichloroethene	ND	ug/L	0.50	0.067	U	J	Head space noted in bottles	NA	Low or high
		cis-1,3-Dichloropropene	ND	ug/L	0.50	0.18	U	J	Head space noted in bottles	NA	Low or high
		Dibromochloromethane	ND	ug/L	0.50	0.14	U	J	Head space noted in bottles	NA	Low or high
		Dibromomethane	ND	ug/L	0.50	0.15	U	J	Head space noted in bottles	NA	Low or high
		Dichlorodifluoromethane	ND	ug/L	0.50	0.13	U	J	Head space noted in bottles	NA	Low or high
		Ethyl Methacrylate	ND	ug/L	5.0	0.15	U	J	Head space noted in bottles	NA	Low or high
		Ethylbenzene	ND	ug/L	0.50	0.050	U	J	Head space noted in bottles	NA	Low or high
		Iodomethane	1.3	ug/L	5.0	0.12	J	J	Head space noted in bottles and concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	Head space noted in bottles and RRF in calibration standards <0.010	NA and Recovery of 60 percent	Low or high
		m,p-Xylene	ND	ug/L	0.50	0.11	U	J	Head space noted in bottles	NA	Low or high
		Methacrylonitrile	ND	ug/L	5.0	0.35	U	J	Head space noted in bottles	NA	Low or high
		Methylene Chloride	0.21	ug/L	2.0	0.10	J	J	Head space noted in bottles and concentration >MDL, <MRL	NA	Low or high
		o-Xylene	ND	ug/L	0.50	0.074	U	J	Head space noted in bottles	NA	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	Head space noted in bottles and LCS recovery below lower control limit	NA	Low or high
		Toluene	ND	ug/L	0.50	0.054	U	J	Head space noted in bottles	NA	Low or high
		trans-1,2-Dichloroethene	ND	ug/L	0.50	0.072	U	J	Head space noted in bottles	NA	Low or high
		trans-1,3-Dichloropropene	ND	ug/L	0.50	0.068	U	J	Head space noted in bottles	NA	Low or high
		trans-1,4-Dichloro-2-butene	ND	ug/L	10	0.35	U	J	Head space noted in bottles	NA	Low or high
		Trichloroethene	ND	ug/L	0.50	0.10	U	J	Head space noted in bottles	NA	Low or high
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	Head space noted in bottles and LCS recovery below lower control limit	NA and Recovery of 50 percent	Low or high
		Vinyl Acetate	ND	ug/L	5.0	0.43	U	J	Head space noted in bottles	NA	Low or high
CTMW-14-0619	K1905207-002	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high

Table 2, continued

Sample Number	Laboratory Sample Number	Chemical	Concentration	Units	Data		Data Flag	Validation Qualifier	Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
					MRL	MDL					
CTMW-15-0619	K1905207-003	Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Chloromethane	0.080	ug/L	0.50	0.068	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
CTMW-25D-0619	K1905207-004	Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-20-0619	K1905207-005	Acetonitrile	ND	ug/L	50	13	U	J	Concentration >MDL, <MRL	NA	Low or high
		Benzene	0.070	ug/L	0.50	0.062	J	J	Concentration >MDL, <MRL	NA	Low or high
		Chlorobenzene	0.24	ug/L	0.50	0.11	J	J	Concentration >MDL, <MRL	NA	Low or high
		Chloromethane	0.13	ug/L	0.50	0.068	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		m,p-Xylene	0.14	ug/L	0.50	0.11	J	J	Concentration >MDL, <MRL	NA	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Toluene	0.070	ug/L	0.50	0.054	J	J	Concentration >MDL, <MRL	NA	Low or high
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
TRIP BLANK #2-0619	K1905207-006	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Methylene Chloride	0.31	ug/L	2.0	0.10	J	J	Concentration >MDL, <MRL	NA	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-5-0619	K1905207-008	1,1-Dichloroethane	0.16	ug/L	0.50	0.077	J	J	Concentration >MDL, <MRL	NA	Low or high
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Benzene	0.15	ug/L	0.50	0.062	J	J	Concentration >MDL, <MRL	NA	Low or high
		cis-1,2-Dichloroethene	0.11	ug/L	0.50	0.067	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-18-0619	K1905207-009	1,1-Dichloroethane	0.12	ug/L	0.50	0.077	J	J	Concentration >MDL, <MRL	NA	Low or high
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Benzene	0.48	ug/L	0.50	0.062	J	J	Concentration >MDL, <MRL	NA	Low or high
		cis-1,2-Dichloroethene	0.13	ug/L	0.50	0.067	J	J	Concentration >MDL, <MRL	NA	Low or high
		Ethylbenzene	0.33	ug/L	0.50	0.050	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		m,p-Xylene	0.20	ug/L	0.50	0.11	J	J	Concentration >MDL, <MRL	NA	Low or high
		o-Xylene	0.21	ug/L	0.50	0.074	J	J	Concentration >MDL, <MRL	NA	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Toluene	0.33	ug/L	0.50	0.054	J	J	Concentration >MDL, <MRL	NA	Low or high
		trans-1,2-Dichloroethene	0.21	ug/L	0.50	0.072	J	J	Concentration >MDL, <MRL	NA	Low or high
		Trichloroethene	0.11	ug/L	0.50	0.10	J	J	Concentration >MDL, <MRL	NA	Low or high
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive		
CTMW-7-0619	K1905207-011	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low

Table 2, continued

Sample Number	Laboratory Sample Number	Chemical	Concentration	Units	MRL	MDL	Data		Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
							Laboratory Data Flag	Validation Qualifier			
CTMW-9-7-0619	K1905207-012	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-8-0619	K1905207-013	1,1-Dichloroethane	ND	ug/L	0.50	0.077	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		1,1,1-Trichloroethane	ND	ug/L	0.50	0.075	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.11	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		1,1,2-Trichloroethane	ND	ug/L	0.50	0.14	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		1,2-Dichloropropane	ND	ug/L	0.50	0.095	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		1,2,3-Trichloropropane	ND	ug/L	0.50	0.20	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		2-Butanone	4.6	ug/L	20	1.9	J	J	Concentration >MDL, <MRL and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	NA and Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		2-Chloroethyl Vinyl Ether	ND	ug/L	5.0	0.16	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		2-Hexanone	ND	ug/L	20	2.7	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		3-Chloro-1-propene	ND	ug/L	5.0	0.094	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		4-Methyl-2-pentanone	ND	ug/L	20	2.6	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Acetone	49	ug/L	20	3.3	J	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010 and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	RRF <0.010 and dibromofluoromethane at 59 percent below lower control limit of 73 percent	Low
		Acrolein	ND	ug/L	20	1.2	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Acrylonitrile	ND	ug/L	5.0	0.53	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Benzene	0.14	ug/L	0.50	0.062	J	J	Concentration >MDL, <MRL and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	NA and Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Bromodichloromethane	ND	ug/L	0.50	0.091	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Bromoform	ND	ug/L	0.50	0.16	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Bromomethane	ND	ug/L	0.50	0.16	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Carbon Disulfide	ND	ug/L	0.50	0.069	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Chlorobenzene	ND	ug/L	0.50	0.11	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Chloroethane	ND	ug/L	0.50	0.16	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Chloroform	ND	ug/L	0.50	0.072	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
Chloromethane	0.090	ug/L	0.50	0.068	J	J	Concentration >MDL, <MRL and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	NA and Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low		
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.067	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low		
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.18	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low		

Table 2, continued

Sample Number	Laboratory Sample Number	Chemical	Concentration	Units	MRL	MDL	Data		Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
							Data Flag	Validation Qualifier			
		Dibromochloromethane	ND	ug/L	0.50	0.14	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Dibromomethane	ND	ug/L	0.50	0.15	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Dichlorodifluoromethane	ND	ug/L	0.50	0.13	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Ethyl Methacrylate	ND	ug/L	5.0	0.15	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Ethylbenzene	0.050	ug/L	0.50	0.050	J	J	Concentration >MDL, <MRL and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	NA and Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010 and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	RRF <0.010 and dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		m,p-Xylene	ND	ug/L	0.50	0.11	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Methacrylonitrile	ND	ug/L	5.0	0.35	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Methylene Chloride	ND	ug/L	2.0	0.10	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		o-Xylene	ND	ug/L	0.50	0.074	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit and LCS	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent and LCS recovery of 60	Low
		Toluene	1.1	ug/L	0.50	0.054	J	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		trans-1,2-Dichloroethene	ND	ug/L	0.50	0.072	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		trans-1,3-Dichloropropene	ND	ug/L	0.50	0.068	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		trans-1,4-Dichloro-2-butene	ND	ug/L	10	0.35	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Trichloroethene	ND	ug/L	0.50	0.10	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit and LCS	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent and LCS recovery of 50	Low
		Vinyl Acetate	ND	ug/L	5.0	0.43	U	J	Recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Dibromofluoromethane at 59 percent and below lower control limit of 73 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	UJ	Detected in trip, field, and method blanks and recovery of 1 of 3 surrogate compounds below lower laboratory-established control limit	Detected at 1.3 ug/L (highest concentration) and dibromofluoromethane at 59 percent and below lower control limit of 73 percent	False positive
CTMW-9-0619	K1905207-014	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Carbon Disulfide	0.080	ug/L	0.50	0.069	J	J	Concentration >MDL, <MRL	NA	Low or high
		Chloromethane	0.070	ug/L	0.50	0.068	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-17-0619	K1905207-015	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Benzene	0.090	ug/L	0.50	0.062	J	J	Concentration >MDL, <MRL	NA	Low or high
		cis-1,2-Dichloroethene	0.26	ug/L	0.50	0.067	J	J	Concentration >MDL, <MRL	NA	Low or high
		Ethylbenzene	0.080	ug/L	0.50	0.050	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Toluene	0.16	ug/L	0.50	0.054	J	J	Concentration >MDL, <MRL	NA	Low or high
		Trichloroethene	0.13	ug/L	0.50	0.10	J	J	Concentration >MDL, <MRL	NA	Low or high
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
		Methylene Chloride	0.29	ug/L	2.0	0.10	J	U	Detected in trip, field, and method blanks	Detected at 0.29 ug/L (highest concentration)	False positive
CTMW-17D-0619	K1905207-016	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high

Table 2, continued

Sample Number	Laboratory Sample Number	Chemical	Concentration	Units	Data		Laboratory Validation		Quality Control Reason	Quality Control Result	Possible Bias ^{b,c,d}
					MRL	MDL	Data Flag	Qualifier			
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
FIELD BLANK#1-0619	K1905207-017	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Methylene Chloride	0.29	ug/L	2.0	0.10	J	J	Concentration >MDL, <MRL	NA	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-12-0619	K1905207-018	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		cis-1,2-Dichloroethene	0.12	ug/L	0.50	0.067	J	J	Concentration >MDL, <MRL	NA	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-24D-0619	K1905207-019	Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
CTMW-24-0619	K1905207-020	3-Chloro-1-propene	0.15	ug/L	5.0	0.094	J	J	Concentration >MDL, <MRL	NA	Low or high
		Acetonitrile	ND	ug/L	50	13	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Isobutyl Alcohol	ND	ug/L	100	6.9	U	J	RRF in calibration standards <0.010	RRF <0.010	Low or high
		Tetrachloroethene	ND	ug/L	0.50	0.099	U	J	LCS recovery below lower control limit	Recovery of 60 percent	Low
		Trichlorofluoromethane	ND	ug/L	0.50	0.12	U	J	LCS recovery below lower control limit	Recovery of 50 percent	Low
		Iodomethane	1.3	ug/L	5.0	0.12	J	U	Detected in trip, field, and method blanks	Detected at 1.3 ug/L (highest concentration)	False positive
VOCs by GC/MS operated in SIM mode											
TRIP BLANK #1-0619	K1905207-001	Vinyl Chloride	ND	ng/L	20	4.6	U	J	Head space noted in bottles	NA	Low or high
		1,1-Dichloroethene	ND	ng/L	20	5.9	U	J	Head space noted in bottles	NA	Low or high
		1,1,2,2-Tetrachloroethane	ND	ng/L	20	8.7	U	J	Head space noted in bottles	NA	Low or high
		1,2-Dichloroethane	ND	ng/L	20	5.8	U	J	Head space noted in bottles	NA	Low or high
		Carbon Tetrachloride	ND	ng/L	20	7.2	U	J	Head space noted in bottles	NA	Low or high
CTMW-15-0619	K1905207-003	1,2-Dichloroethane	6.1	ng/L	20	5.8	J	U	Detected in field blank	Detected at 5.9 ng/L	False positive
CTMW-20-0619	K1905207-005	1,2-Dichloroethane	16	ng/L	20	5.8	J	J	Concentration >MDL, <MRL	NA	Low or high
		Vinyl Chloride	19	ng/L	20	4.6	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-5-0619	K1905207-008	Vinyl Chloride	8.9	ng/L	20	4.6	J	J	Concentration >MDL, <MRL	NA	Low or high
		1,2-Dichloroethane	6.0	ng/L	20	5.8	J	U	Detected in field blank	Detected at 5.9 ng/L	False positive
CTMW-18-0619	K1905207-009	1,2-Dichloroethane	25	ng/L	20	5.8	J	J	Detected in field blank, but concentration is >2x, but <5x blank	Detected at 5.9 ng/L	High
		Vinyl Chloride	20	ng/L	20	4.6	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-8-0619	K1905207-013	Vinyl Chloride	6.0	ng/L	20	4.6	J	J	Concentration >MDL, <MRL	NA	Low or high
		1,2-Dichloroethane	6.4	ng/L	20	5.8	J	U	Detected in field blank	Detected at 5.9 ng/L	False positive
CTMW-17-0619	K1905207-015	1,1-Dichloroethene	8.7	ng/L	20	5.9	J	J	Concentration >MDL, <MRL	NA	Low or high
		1,2-Dichloroethane	6.8	ng/L	20	5.8	J	U	Detected in field blank	Detected at 5.9 ng/L	False positive
FIELD BLANK#1-0619	K1905207-017	1,2-Dichloroethane	5.9	ng/L	20	5.8	J	J	Concentration >MDL, <MRL	NA	Low or high
CTMW-24D-0619	K1905207-019	1,1,2,2-Tetrachloroethane	ND	ng/L	20	8.7	U	J	RRF in calibration standards <0.300	RRF <0.300	Low or high
CTMW-24-0619	K1905207-020	1,1,2,2-Tetrachloroethane	ND	ng/L	20	8.7	U	J	RRF in calibration standards <0.300	RRF <0.300	Low or high

Notes:
 GC/FID - gas chromatography/flame ionization detection
 GC/MS - gas chromatography/mass spectrometry
 J - estimated

Total results qualified "J" =	223
Total results qualified "U" =	45
Total results qualified "UJ" =	6
Total results qualified "R" =	0

Table 2, continued

LCS- laboratory control sample

MDL - method detection limit

MRL - method reporting limit

NA - not applicable

ND - not detected

RRF - relative response factor

SIM - selected ion monitoring

U - undetected at detection limit shown

VOC - volatile organic compound

^a Summary of qualified data is for natural and field quality control samples only

^bLow bias - concentration reported is exhibits low bias and the actual reporting limit or concentration may be greater than reported

^cHigh bias - result reported exhibits high bias and the actual reporting limit or concentration may be lower than reported

^dFalse positive - compound is likely not present